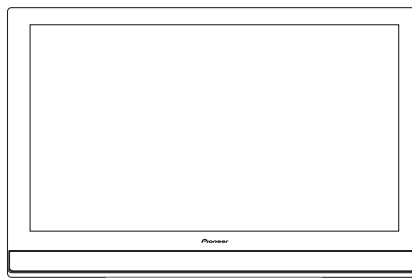


# Service Manual



PDP-427XD

ORDER NO.  
**ARP3391**

PLASMA TELEVISION

# PDP-427XD

## PDP-4270XD

## PDP-427XA

## PDP-4270XA

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

| Model      | Type    | Power Requirement | Remarks |
|------------|---------|-------------------|---------|
| PDP-427XD  | WYVIXK5 | AC 220 V to 240 V |         |
| PDP-4270XD | WYVIXK5 | AC 220 V to 240 V |         |
| PDP-427XA  | WYVIXK5 | AC 220 V to 240 V |         |
|            | WYV5    | AC 220 V to 240 V |         |
| PDP-4270XA | WYVIXK5 | AC 220 V to 240 V |         |
|            | WYV5    | AC 220 V to 240 V |         |

|  |  |  |
|--|--|--|
|  |  |  |
|  |  |  |



For details, refer to "Important Check Points for good servicing".

# 1. NOTES ON SERVICE VISIT

## 1.1 SAFETY INFORMATION



**This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.**

**Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.**

### WARNING

**This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.**

Health & Safety Code Section 25249.6 - Proposition 65

### NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols  (fast operating fuse) and/or  (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

### REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible  (fusible de type rapide) et/ou  (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

## SAFETY PRECAUTIONS

**NOTICE :** Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis.

The following precautions should be observed :

1. When service is required, even though the PDP UNIT an isolation transformer should be inserted between the power line and the set in safety before any service is performed.
2. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
3. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
4. Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing. Therefore, the following checks should be performed for the continued protection of the customer and servicetechnician.

6. Perform the following precautions against unwanted radiation and rise in internal temperature.

- Always return the internal wiring to the original styling.
- Attach parts (Gasket, Ferrite Core, Ground, Rear Cover, Shield Case etc.) surely after disassembly.

7. Perform the following precautions for the PDP panel.

- When the front case is removed, make sure nothing hits the panel face, panel corner, and panel edge (so that the glass does not break).
- Make sure that the panel vent does not break. (Check that the cover is attached.)
- Handle the FPC connected to the panel carefully. Twisting or pulling the FPC when connecting it to the connector will cause it to peel off from the panel.

8. Pay attention to the following.

- Pay extreme caution when the front case and rear panel are removed because this may cause a high risk of disturbance to TVs and radios in the surrounding.

### Leakage Current Cold Check

With the AC plug removed from an AC power source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 4 M $\Omega$ .

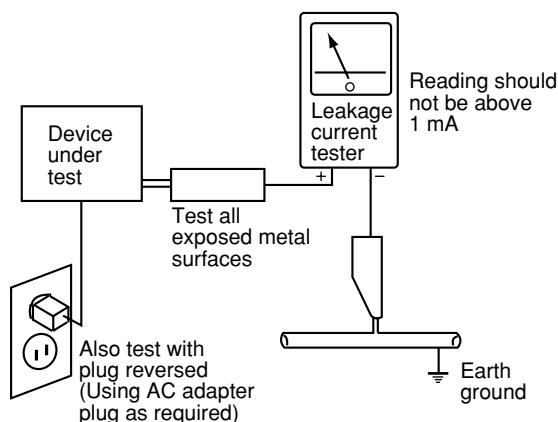
The below 4M $\Omega$  resistor value indicate an abnormality which require corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

### Leakage Current Hot Check

Plug the AC line cord directly into an AC power source (do not use an isolation transformer for this check).

Turn the AC power switch on.

Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 1mA.



AC Leakage Test

**ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.**

### PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a  $\Delta$  on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

A

## ■ Charged Section

The places where the commercial AC power is used without passing through the power supply transformer.

If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.

- B
1. Power cord
  2. AC inlet
  3. Power switch (S1)
  4. Fuse (In the POWER SUPPLY Unit)
  5. STB transformer and Converter transformer (In the POWER SUPPLY Unit)
  6. Other primary side of the POWER SUPPLY Unit

- C
- : Part is Charged Section.  
 ■ : Part is the High Voltage Generating Points other than the Charged Section.

## ■ High Voltage Generating Point

The places where voltage is 100 V or more except for the charged places described above. If the places are touched, there is a risk of electric shock.

The VSUS voltage remains for several minutes after the power to the unit is turned off. These places must not be touched until about 10 minutes after the power is turned off, or it is confirmed with a tester that there is no residual VSUS voltage.

If the procedures described in “10.3 POWER ON/OFF FUNCTION FOR THE LARGE-SIGNAL SYSTEM” are performed before the power is turned off, the voltage will be discharged in about 30 seconds.

|                        |                   |
|------------------------|-------------------|
| POWER SUPPLY Unit..... | (205 V)           |
| 42 X DRIVE Assy.....   | (-180 V to 205 V) |
| 42 Y DRIVE Assy.....   | (500 V)           |
| 42 SCAN A Assy.....    | (500 V)           |
| 42 SCAN B Assy.....    | (500 V)           |
| SUS CLAMP 1 Assy.....  | (-180 V to 205 V) |
| SUS CLAMP 2 Assy.....  | (-180 V to 205 V) |

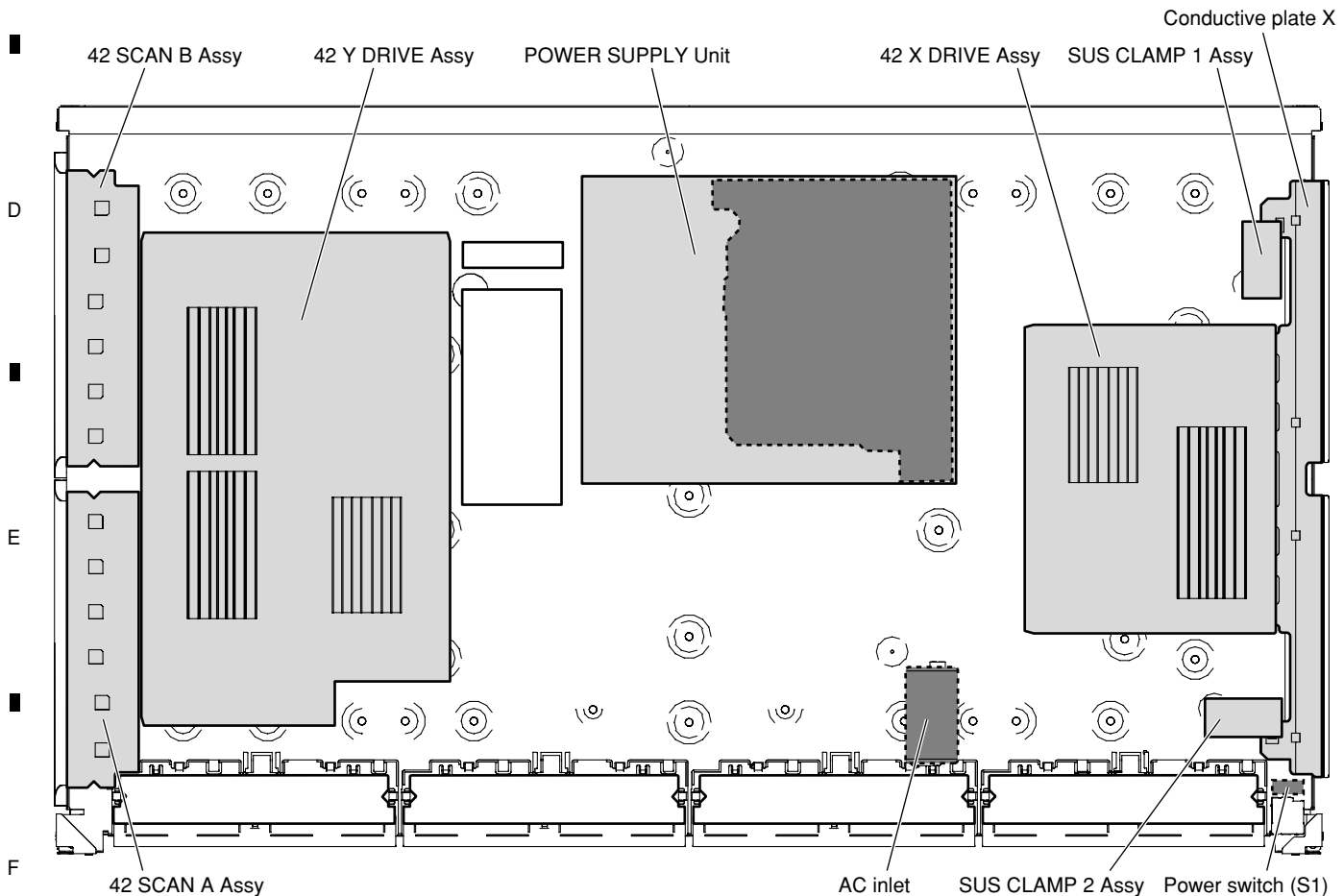


Fig. High Voltage Generating Point (Rear view)

## [Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol. Please be sure to confirm and follow these procedures.

### 1. Product safety



Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

- ① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

- ② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification (addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

- ③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris. Soldering should be finished with the proper quantity. (Refer to the example)

- ④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

- ⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

- ⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs. In addition, be sure that there are no pinched wires, etc.

- ⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

- ⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages. If you find a damaged power cord, please exchange it with a suitable one.

- ⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

- ⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries. Please pay attention to your surroundings and repair safely.

### 2. Adjustments



To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification. Adjustments should be performed in accordance with the procedures/instructions described in this manual.

### 3. Lubricants, Glues, and Replacement parts



Use grease and adhesives that are equal to the specified substance. Make sure the proper amount is applied.

### 4. Cleaning



For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

### 5. Shipping mode and Shipping screws



To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

## 1.2 QUICK REFERENCE UPON SERVICE VISIT

### Quick Reference upon Service Visit ① Notes, PD/SD diagnosis, and methods for various settings

#### Notes when visiting for service

##### 1. Notes when disassembling/reassembling

###### ① Rear case

When reassembling the rear case, the screws must be tightened in a specific order. Be careful not to tighten them in the wrong order forcibly. For details, see "Rear Case" in "6. DISASSEMBLY"

###### ② Attaching screws for the HDMI connector

When attaching the HDMI connector after replacing the Main Assy, secure the HDMI connector manually with a screwdriver, but not with an electric screwdriver. If you tighten the screws too tightly with an electric screwdriver, the screw heads may be damaged, in which case the screws cannot be untightened/tightened any more.

##### 2. On parts replacement

###### ① How to discharge before replacing the Assys

A charge of significant voltage remains in the Plasma Panel even after the power is turned off. Safely discharge the panel before replacement of parts, in either manner indicated below:

A: Let the panel sit at least for 3 minutes after the power is turned off.

B: Turn the Large Signal System off before the power is turned off then, after 1 minute, turn the power off.

For details, see "10.2 Power ON/OFF Function for the Large-Signal System."

###### ② On the settings after replacement of the Assys

Some boards need settings made after replacement of the Assys. For details, see "7. ADJUSTMENT"

##### 3. On various settings

###### ① SR+

After a repair using a PC, be sure to restore the setting for the RS-232C connector to SR+.

###### ② Setting in Factory mode

After a Mask indication into the panel is performed, be sure to set the Mask setting to "OFF" then exit Factory mode.

| PD/SD         |                                             |                      | Change of settings |                                                                                                                                                                                                                                  |
|---------------|---------------------------------------------|----------------------|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Item          |                                             | No. of LEDs flashing |                    | How to enter Factory mode using the supplied remote control unit                                                                                                                                                                 |
|               |                                             | Red                  | Blue               | In the same way as with the remote control unit supplied with the 6th-generation model                                                                                                                                           |
| Panel section | Communication with the panel drive IC       |                      | Blue 1             | How to enter Integrator mode using the supplied remote control unit                                                                                                                                                              |
|               | Communication with the module IIC           |                      | Blue 2             |                                                                                                                                                                                                                                  |
|               | DIGITAL-RST2                                |                      | Blue 3             |                                                                                                                                                                                                                                  |
|               | Panel high temperature                      |                      | Blue 4             |                                                                                                                                                                                                                                  |
| Main section  | Audio                                       |                      | Blue 5             | ① Enter the Standby mode.<br>② Press [MENU].<br>③ Press [TV ⏻].                                                                                                                                                                  |
|               | Communication with the Module microcomputer |                      | Blue 6             |                                                                                                                                                                                                                                  |
|               | Main 3-wire serial communication            |                      | Blue 7             |                                                                                                                                                                                                                                  |
|               | Main IIC communication                      |                      | Blue 8             | How to switch UART ① (Integrator)                                                                                                                                                                                                |
|               | Communication with the Main microcomputer   |                      | Blue 9             |                                                                                                                                                                                                                                  |
|               | FAN                                         |                      | Blue 10            |                                                                                                                                                                                                                                  |
|               | Unit high temperature                       |                      | Blue 11            | ① Enter the Integrator mode.<br>② Display "OFF" using [➡].<br>③ Change the communication speed using [↓], then [➡].                                                                                                              |
|               | Communication with the D-TUNER              |                      | Blue 12            |                                                                                                                                                                                                                                  |
| MTB-RST2/RST4 |                                             |                      | Blue 13            |                                                                                                                                                                                                                                  |
| POWER         |                                             | Red 2                |                    | How to switch UART ② (During Standby)                                                                                                                                                                                            |
| SCAN          |                                             | Red 3                |                    |                                                                                                                                                                                                                                  |
| SCN-5V        |                                             | Red 4                |                    |                                                                                                                                                                                                                                  |
| Y-DRIVE       |                                             | Red 5                |                    | ① Enter the Standby mode.<br>② Hold [VOL +] or [VOL -] pressed for 3 seconds.<br>③ Hold [SPLIT] pressed for 3 seconds.<br>④-1 To set to 232C, press [ENTER].<br>⑤-2 To set to SR+, press [HOME MENU].                            |
| Y-DCDC        |                                             | Red 6                |                    |                                                                                                                                                                                                                                  |
| Y-SUS         |                                             | Red 7                |                    |                                                                                                                                                                                                                                  |
| ADRS          |                                             | Red 8                |                    | Note: If switching is completed successfully, the red LED will flash twice.<br>Note 1: Use a remote control unit supplied with the 6th-generation models or later.<br>Note 2: Do not hold a key pressed for more than 5 seconds. |
| X-DRIVE       |                                             | Red 9                |                    |                                                                                                                                                                                                                                  |
| X-DCDC        |                                             | Red 10               |                    |                                                                                                                                                                                                                                  |
| X-SUS         |                                             | Red 11               |                    |                                                                                                                                                                                                                                  |
| UNKNOWN       |                                             | Red 15               |                    |                                                                                                                                                                                                                                  |

#### How to locate several items on the Factory menu

{ } : Item on the Factory menu  
[ ] : Key on the remote control unit  
" " : Screen indication

##### 1. Confirmation of accumulated power-on time and power-on count

Select {INFORMATION} then {HOUR METER}.  
(After entering Factory mode, press [↓] four times.)

##### 2. Confirmation of the Power-down and Shutdown histories

###### ① Panel system

PD: Select {PANEL FACTORY} then {POWER DOWN}.  
(After entering Factory mode, press [MUTING] once, press [ENTER], then press [↓] three times.)

SD: Select {PANEL FACTORY} then {SHUT DOWN}.  
(After entering Factory mode, press [MUTING] once, press [ENTER], then press [↓] four times.)

###### ② Main Assy

Select {INFORMATION} then {MAIN NG}.  
(After entering Factory mode, press [↓] three times.)

##### 3. How to display the Mask indication

###### ① Mask indication in the panel side

1. Select {PANEL FACTORY} then {RASTER MASK SETUP}.  
(After entering Factory mode, press [MUTING] once, press [ENTER], then press [↓] 8 times.)

2. Press [ENTER], then select a Mask indication, using [↑] or [↓].

###### ② Mask (SG screen) indication in the Main Assy (MAIN VDEC)

1. Select either Input 1 or 2, to which no signal is input (black screen).  
2. Select {INITIALIZE} then {SG MODE}. Press [←]. (After entering Factory mode, press [MUTING] three times, then press [↓] once.)  
Then, the indication at the lower right of the screen changes from "OFF" to "ANA AD YCBCR".

3. You can change Mask patterns by pressing [↓] to select {SG PATTERN} then using [←] or [→].

Note: When you switch "SG MODE" routes, some displays become monochrome, as they are in Y-signal only mode.

#### Adjustments and Settings after replacement of the Assys (Procedures in Factory mode)

##### 1. Digital Video Assy: Transfer of backup data

- ① Select {PANEL FACTORY}, {ETC}, then {BACKUP DATA}. (After entering Factory mode, press [MUTING] once, press [ENTER], press [↓] seven times, then press [ENTER].)
- ② Select {TRANSFER}, using [→], then hold [SET] pressed for at least 5 seconds.
- ③ After transfer of backup data is completed, {ETC} is automatically selected, and the LED on the front panel returns to normal lighting.

##### 2. MAIN Assy : Switching to SR+ from RS-232C

- ① Enter the Integrator mode. (The way is described above.)
- ② As SR+ <=> is [OFF] state, switch to [ON] state by using [→].
- ③ Turn the POWER switch of the main unit off by the remote control.

##### 3. POWER SUPPLY Unit: Clearance of the accumulated power-on count and maximum temperature value

- ① Select {PANEL FACTORY}, {ETC}, then {P COUNT INFO}. (After entering Factory mode, press [MUTING] once, press [ENTER], press [↓] seven times, press [ENTER], then press [↓] six times.)
- ② Press [→] to select "CLEAR". Hold [SET] pressed for at least 5 seconds.  
After clearance is completed, "ETC" is automatically selected. Clear the maximum temperature value (MAX TEMP) in the same manner.

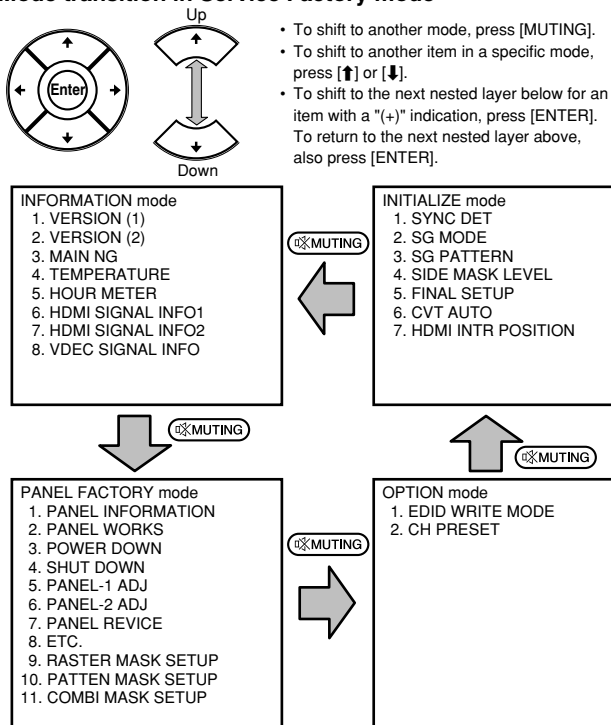
##### 4. Other Assys: Clearance of the maximum temperature value

- ① Select {PANEL FACTORY}, {ETC}, then {MAX TEMP}. (After entering Factory mode, press [MUTING] once, press [ENTER], press [↓] seven times, press [ENTER], then press [↓] seven times.)
- ② Press [→] to select "CLEAR". Hold [SET] pressed for at least 5 seconds.  
After clearance is completed, "ETC" is automatically selected.

## Quick Reference upon Service Visit ②

### Mode transition and structure of layers in Service Factory mode

#### Mode transition in Service Factory mode



#### Structure of Layers in Service Factory Mode

- INFORMATION mode**
- 1. VERSION (1)
  - 2. VERSION (2)
  - 3. MAIN NG
    - 3-1. CLEAR
  - 4. TEMPERATURE
  - 5. HOUR METER
    - 5-1. CLEAR
  - 6. HDMI SIGNAL INFO 1
  - 7. HDMI SIGNAL INFO 2
  - 8. VDEC SIGNAL INFO
- PANEL FACTORY mode**
- OPTION**
- 1. EDID WRITE MODE
  - 2. CH PRESET
- INITIALIZE**
- 1. SYNC DET (+)
  - 2. SG MODE
  - 3. SG PATTERN
  - 4. SIDE MASK LEVEL(+)
    - 4-1. R MASK LEVEL
    - 4-2. G MASK LEVEL
    - 4-3. B MASK LEVEL
  - 5. FINAL SETUP
    - 5-1. DATA RESET
  - 6. CVT AUTO
  - 7. HDMI INTR POSITION(+)
- Flash Versions for PANEL system and MAIN system**  
Flash Versions for DTV system  
SD histories for MAIN (Going Clear model by SET key)  
Select Yes by [→] key → pushing and hold [SET] key  
TEMP 1, TEMP2 and FAN mode are displayed  
Hour meter and number of Power ON are displayed  
Select Yes by [→] key → pushing and hold [SET] key  
For factory use  
Signal info of HDMI are displayed (Detail are on SM)  
For factory use  
Refer to [PANEL FACTORY MODE]
- For factory use  
For production line use
- For factory use  
SG signal from MAIN VDEC (Composite signal is required)  
For factory use  
For factory use
- Set to Factory default settings (it should perform after replacing a MAIN board)  
For factory use  
For factory use

#### Structure of Layers in Panel Factory Mode 1

- 1. PANEL INFORMATION
  - 2. PANEL WORKS
  - 3. POWER DOWN
  - 4. SHUT DOWN
  - 5. PANEL-1 ADJ (+)
    - 1. X-SUS B
    - 2. Y-SUS B
    - 3. Y-SUSTAIL T1
    - 4. Y-SUSTAIL T2
    - 5. Y-SUSTAIL W
    - 6. XY-RST W1
    - 7. XY-RST W2
    - 8. VOL SUS
    - 9. VOL OFFSET
    - 10. VOL RST P
    - 11. SUS FREQ.
  - 6. PANEL-2 ADJ (+)
    - 1. R-HIGH
    - 2. G-HIGH
    - 3. B-HIGH
    - 4. R-LOW
    - 5. G-LOW
    - 6. B-LOW
    - 7. ABL
- Version indication of the panel  
Indications of the accumulated power-on time, pulse-meter count, and power-on count of the panel  
Indication of the Power-down history  
Indication of the Shutdown history
- Modification not required because these items are basically for factory presetting
- Settings required after replacement of the panel
- For AM noise prevention (Depending on the mode, brightness of the screen changes.)
- Parameters for the WB adjustment of the panel, which are required during adjustment after panel replacement
- Setting of the power consumption. A setting table is available for each vertical signal.

To "Structure of Layers in Panel Factory Mode 2"

#### Structure of Layers in Panel Factory Mode 2

- 7. PANEL REVISE (+)
    - R-LEVEL
    - G-LEVEL
    - B-LEVEL
  - 8. ETC (+)
    - 1. BACKUP DATA
    - 2. DIGITAL EEPROM
    - 3. PD INFO.
    - 4. SD INFO.
    - 5. HR-MTR INFO.
    - 6. PM/B1-B5
    - 7. P COUNT INFO.
    - 8. MAX TEMP.
  - 9. RASTER MASK SETUP (+)
    - 1. MASK OFF
    - 2. RST MASK 01
    - .....
    - 25. RST MASK 24
  - 10. PATTEN MASK SETUP (+)
    - 1. MASK OFF
    - 2. PTN MASK 01
    - .....
    - 40. PTN MASK 39
  - 11. COMBI MASK SETUP (+)
    - 1. MASK OFF
    - 2. CMB MASK 01
    - .....
    - 11. CMB MASK 10
- Items for use by engineers
- For transferring backup data (after replacement of the DIGITAL Assy)  
To clear data of the digital video
- For clearance of data for the corresponding items. The clearing method is the same: Select "CLEAR", using [→], then hold [SET] pressed for at least 5 seconds. After clearance is completed, {ETC} is automatically selected.
- For use while Raster Mask (full mask) is displayed. Use [↑] or [↓] to select the type of mask.
- For use while Pattern Mask is displayed. Use [↑] or [↓] to select the type of mask.
- For use while Combination Mask is displayed. Use [↑] or [↓] to select the type of mask.

## 1.3 JIGS LIST



### ■ Cleaning

| Name            | Part No. | Remarks                                                       |
|-----------------|----------|---------------------------------------------------------------|
| Cleaning liquid | GEM1004  | Used to fan cleaning.<br>Refer to "2.4 CHASSIS SECTION (1/2). |
| Cleaning paper  | GED-008  |                                                               |

## CONTENTS

|       |                                                                  |     |
|-------|------------------------------------------------------------------|-----|
| 1.    | NOTES ON SERVICE VISIT .....                                     | 2   |
| 1.1   | SAFETY INFORMATION .....                                         | 2   |
| 1.2   | QUICK REFERENCE UPON SERVICE VISIT .....                         | 6   |
| 1.3   | JIGS LIST .....                                                  | 8   |
| 2.    | EXPLODED VIEWS AND PARTS LIST .....                              | 10  |
| 2.1   | PACKING SECTION .....                                            | 10  |
| 2.2   | REAR SECTION .....                                               | 12  |
| 2.3   | FRONT SECTION .....                                              | 14  |
| 2.4   | CHASSIS SECTION (1/2) .....                                      | 16  |
| 2.5   | CHASSIS SECTION (2/2) .....                                      | 18  |
| 2.6   | PANEL CHASSIS SECTION .....                                      | 20  |
| 2.7   | MULTI BASE SECTION .....                                         | 22  |
| 2.8   | PDP SERVICE PANEL ASSY 427 (AWU1208) .....                       | 24  |
| 2.9   | TABLE TOP STAND (PDP-4270XD and PDP-4270XA ONLY) .....           | 25  |
| 3.    | PCB PARTS LIST .....                                             | 26  |
| 4.    | BLOCK DIAGRAM AND SCHEMATIC DIAGRAM .....                        | 42  |
| 4.1   | OVERALL WIRING DIAGRAM (1/2) .....                               | 42  |
| 4.2   | OVERALL WIRING DIAGRAM (2/2) .....                               | 44  |
| 4.3   | OVERALL BLOCK DIAGRAM (1/2) .....                                | 46  |
| 4.4   | OVERALL BLOCK DIAGRAM (2/2) .....                                | 48  |
| 4.5   | POWER SUPPLY UNIT .....                                          | 49  |
| 4.6   | 42 X DRIVE, SUS CLAMP 1 and SUS CLAMP 2 ASSYS .....              | 50  |
| 4.7   | 42 Y DRIVE ASSY .....                                            | 51  |
| 4.8   | POWER SUPPLY BLOCK of 42 X DRIVE and 42 Y DRIVE ASSYS .....      | 52  |
| 4.9   | 42 SCAN A and 42 SCAN B ASSYS .....                              | 53  |
| 4.10  | 42 ADDRESS ASSY .....                                            | 54  |
| 4.11  | 42 DIGITAL ASSY .....                                            | 55  |
| 4.12  | SIGNAL BLOCK DIAGRAM .....                                       | 56  |
| 4.13  | R07 DT ASSY (PDP-4270XD and PDP-427XD ONLY) .....                | 58  |
| 4.14  | POWER SUPPLY BLOCK of MAIN ASSY .....                            | 59  |
| 4.15  | 42E AUDIO ASSY .....                                             | 60  |
| 4.16  | POWER SUPPLY BLOCK of 42E AUDIO, LED IR and SIDE KEY ASSYS ..... | 61  |
| 4.17  | VOLTAGES .....                                                   | 62  |
| 4.18  | WAVEFORMS .....                                                  | 70  |
| 5.    | DIAGNOSIS .....                                                  | 74  |
| 5.1   | TROUBLE SHOOTING .....                                           | 74  |
| 5.1.1 | FLOWCHART OF FAILURE ANALYSIS FOR THE WHOLE UNIT .....           | 74  |
| 5.1.2 | FLOWCHART OF FAILURE ANALYSIS FOR THE POWER SUPPLY UNIT .....    | 76  |
| 5.1.3 | FLOWCHART OF FAILURE ANALYSIS FOR THE DIGITAL ASSY .....         | 77  |
| 5.1.4 | FLOWCHART OF FAILURE ANALYSIS FOR THE DRIVE ASSY .....           | 78  |
| 5.1.5 | FLOWCHART OF FAILURE ANALYSIS FOR THE MAIN ASSY .....            | 82  |
| 5.1.6 | FLOWCHART OF FAILURE ANALYSIS FOR THE VIDEO SYSTEM .....         | 83  |
| 5.1.7 | FLOWCHART OF FAILURE ANALYSIS FOR THE AUDIO SYSTEM .....         | 90  |
| 5.2   | DIAGNOSIS OF PD (POWER-DOWN) .....                               | 93  |
| 5.2.1 | BLOCK DIAGRAM OF THE POWER-DOWN SIGNAL .....                     | 93  |
| 5.2.2 | DIAGNOSIS OF THE PD (POWER-DOWN) .....                           | 94  |
| 5.3   | DIAGNOSIS OF SD (SHUTDOWN) .....                                 | 97  |
| 5.3.1 | BLOCK DIAGRAM OF THE SHUTDOWN SIGNAL .....                       | 97  |
| 5.3.2 | SD (SHUTDOWN) DIAGNOSIS .....                                    | 98  |
| 5.4   | INFORMATION ON SYMPTOMS THAT DO NOT CONSTITUTE FAILURE .....     | 99  |
| 6.    | DISASSEMBLY .....                                                | 100 |
| 6.1   | PCB LOCATION .....                                               | 100 |

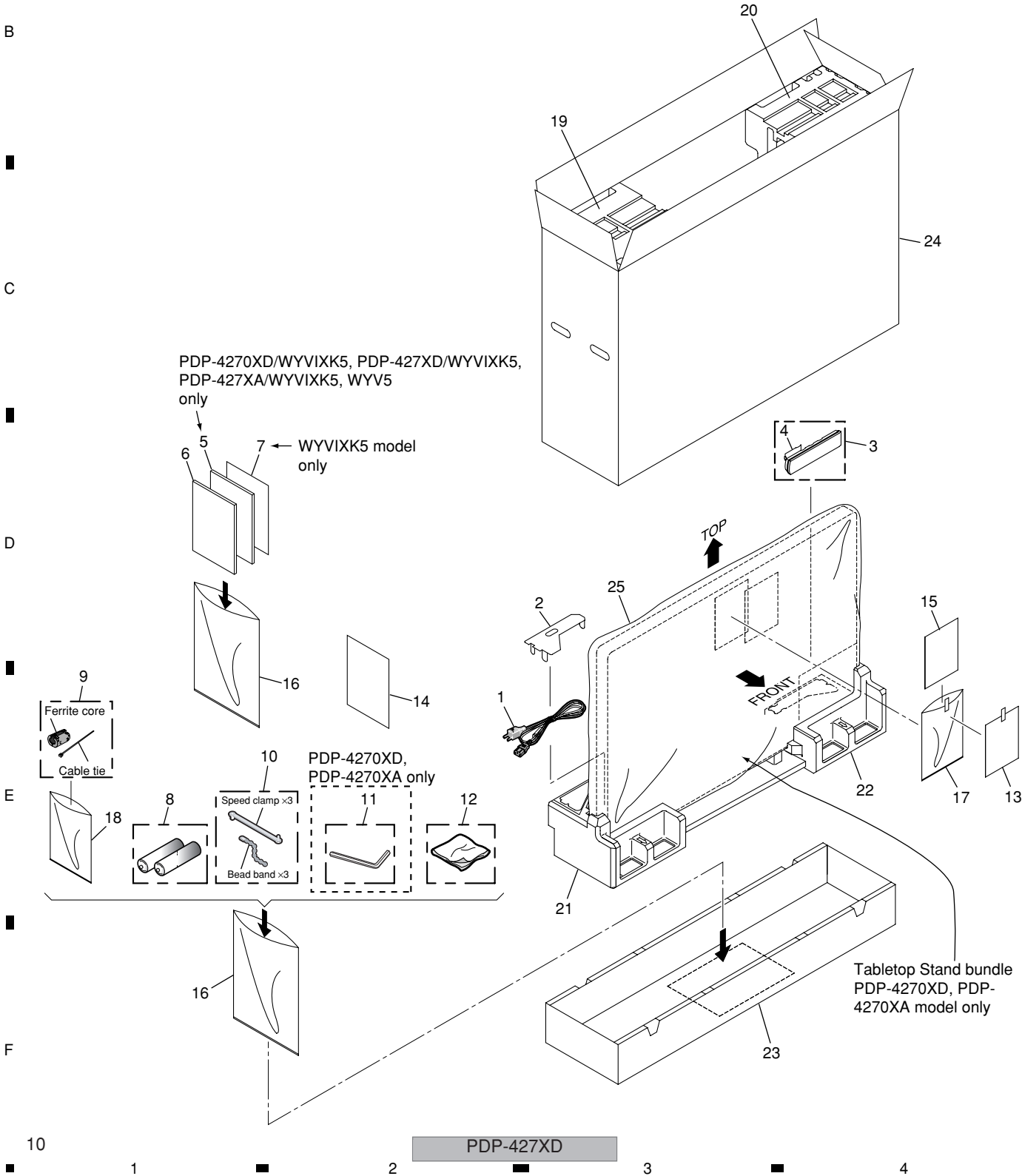
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|--------------------------------------------------------------------------|---|---|-----|
| 5                                                                        | 6 | 7 | 8   |
| 6.2 DISASSEMBLY .....                                                    |   |   | 101 |
| 7. ADJUSTMENT .....                                                      |   |   | 107 |
| 7.1 ADJUSTMENT REQUIRED WHEN THE SET IS REPAIRED OR REPLACED .....       |   |   | 107 |
| 7.2 ADJUSTMENT REQUIRED WHEN PART IS REPLACED .....                      |   |   | 108 |
| 7.3 BACKUP WHEN THE PANEL UNIT IS ADJUSTED .....                         |   |   | 109 |
| 7.4 HOW TO CLEAR HISTORY DATA .....                                      |   |   | 112 |
| 7.5 ADJUSTMENT WHEN THE SERVICE PANEL ASSY IS REPLACED .....             |   |   | 113 |
| 8. SERVICE FACTORY MODE .....                                            |   |   | 115 |
| 8.1 OUTLINE OF THE SERVICE FACTORY .....                                 |   |   | 115 |
| 8.1.1 SERVICE FACTORY MODE TRANSITION CHART .....                        |   |   | 115 |
| 8.1.2 HOW TO ENTER/EXIT SERVICE FACTORY MODE .....                       |   |   | 115 |
| 8.1.3 OPERATION OF SERVICE FACTORY MODE .....                            |   |   | 115 |
| 8.1.4 REMOTE COTROL CODE .....                                           |   |   | 116 |
| 8.1.5 FACTORY HIERARCHICAL TABLE .....                                   |   |   | 117 |
| 8.1.6 INDICATIONS IN SERVICE FACTORY MODE .....                          |   |   | 118 |
| 8.2 FACTORY MENU .....                                                   |   |   | 120 |
| 8.2.1 INFORMATION .....                                                  |   |   | 120 |
| 8.2.2 PANEL FACTORY .....                                                |   |   | 128 |
| 8.2.3 OPTION .....                                                       |   |   | 138 |
| 8.2.4 INITIALIZE .....                                                   |   |   | 138 |
| 9. RS-232C .....                                                         |   |   | 141 |
| 9.1 OUTLINE OF RS-232C COMMAND .....                                     |   |   | 141 |
| 9.1.1 PREPARED TOOLS .....                                               |   |   | 141 |
| 9.1.2 USING RS-232C COMMANDS .....                                       |   |   | 141 |
| 9.1.3 COMMAND PROTOCOL .....                                             |   |   | 142 |
| 9.1.4 COMMAND DEFINITION .....                                           |   |   | 143 |
| 9.2 LIST OF RS-232C COMMANDS .....                                       |   |   | 145 |
| 9.3 OUTLINE OF EACH COMMANDS .....                                       |   |   | 151 |
| 9.3.1 ACQUISITION OF PANEL STATUS ••• [QS1] .....                        |   |   | 151 |
| 9.3.2 ACQUISITION OF PANEL OPERATION DATA ••• [QS2] .....                |   |   | 152 |
| 9.3.3 ACQUISITION OF OTHER DATA ON THE PANEL ••• [QIP] .....             |   |   | 153 |
| 9.3.4 ACQUISITION OF PANEL ADJUSTMENT DATA (COMMON DATA) ••• [QAJ] ..... |   |   | 153 |
| 9.3.5 ACQUISITION OF ABL/WB ADJUSTMENT DATA ••• [QPW] .....              |   |   | 154 |
| 9.3.6 ACQUISITION OF PULSE METER VALUE ••• [QPM] .....                   |   |   | 154 |
| 9.3.7 ACQUISITION OF PD LOGS ••• [QPD] .....                             |   |   | 155 |
| 9.3.8 ACQUISITION OF SD LOGS ••• [QSD] .....                             |   |   | 156 |
| 9.3.9 QS6 .....                                                          |   |   | 157 |
| 9.3.10 QMT .....                                                         |   |   | 157 |
| 9.3.11 QNG .....                                                         |   |   | 158 |
| 9.3.12 DRV .....                                                         |   |   | 159 |
| 9.3.13 OTHER COMMANDS .....                                              |   |   | 160 |
| 10. GENERAL INFORMATION .....                                            |   |   | 161 |
| 10.1 POWER ON SEQUENCE .....                                             |   |   | 161 |
| 10.2 POWER SUPPLY TRANSITION STATUS .....                                |   |   | 164 |
| 10.3 POWER ON/OFF FUNCTION FOR THE LARGE-SIGNAL SYSTEM .....             |   |   | 165 |
| 10.4 LED INFORMATION .....                                               |   |   | 166 |
| 10.5 SPECIFICATION ABOUT THE THERMAL PROTECTION .....                    |   |   | 167 |
| 10.6 PROCESSING IN ABNORMALITY .....                                     |   |   | 168 |
| 11. SPECIFICATIONS .....                                                 |   |   | 170 |
| 11.1 SPECIFICATIONS .....                                                |   |   | 170 |
| 11.2 ACCESSORIES .....                                                   |   |   | 171 |
| 11.3 PANEL FACILITIES .....                                              |   |   | 172 |
| 11.3.1 PDP-427XD, PDP-4270XD .....                                       |   |   | 172 |
| 11.3.2 PDP-427XA, PDP-4270XA .....                                       |   |   | 177 |
| 12. IC INFORMATION .....                                                 |   |   | 182 |

1234

## 2. EXPLODED VIEWS AND PARTS LIST

- NOTES:
- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
  - The  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
  - Screws adjacent to ▼ mark on product are used for disassembly.
  - For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)

### 2.1 PACKING SECTION



## (1) PACKING SECTION PARTS LIST

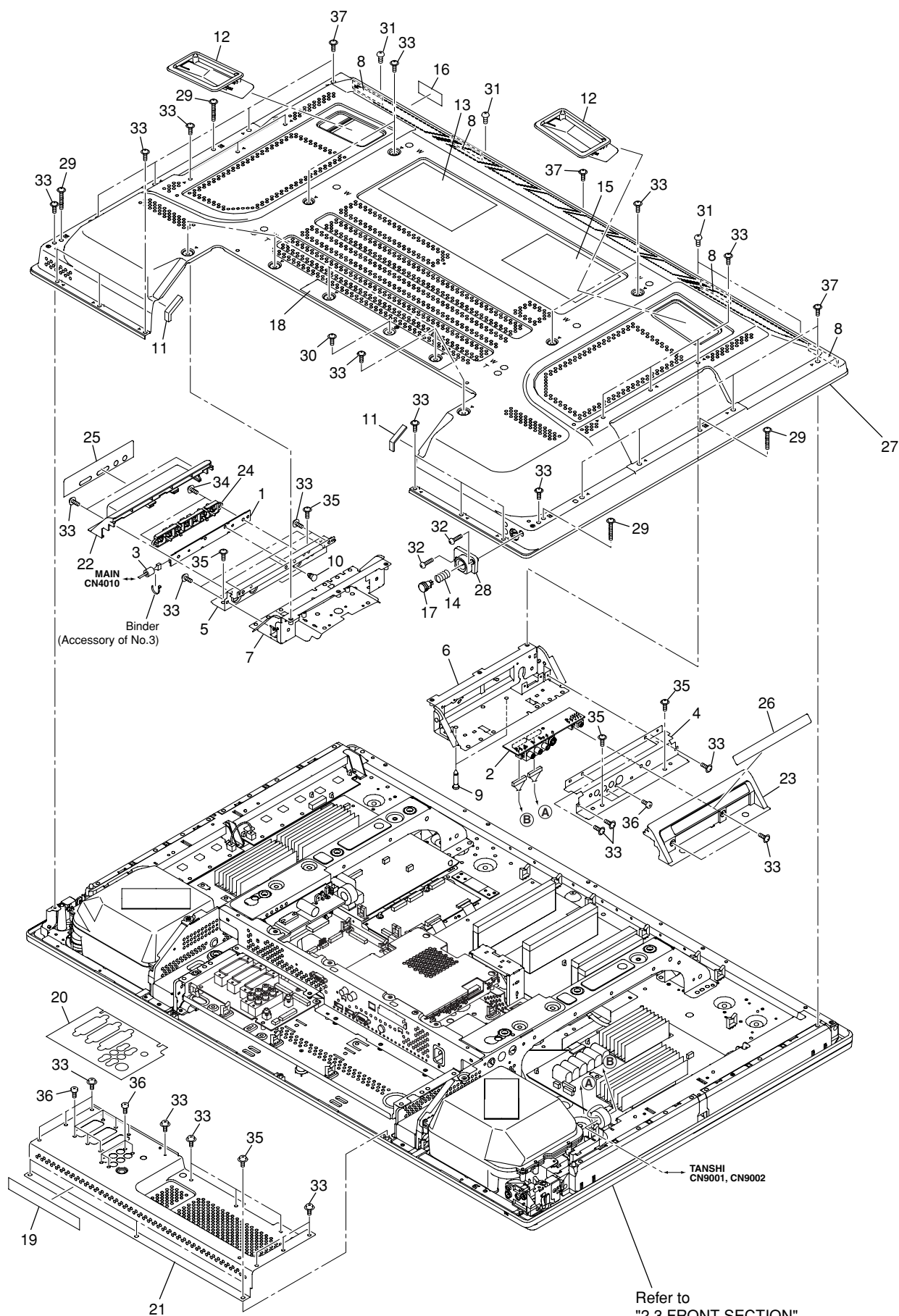
| Mark No. | Description                                       | Part No.               | Mark No. | Description        | Part No.               |
|----------|---------------------------------------------------|------------------------|----------|--------------------|------------------------|
| △ 1      | Power Cord (2 m)                                  | ADG1214                | NSP 15   | Warranty Card      | ARY1114                |
| 2        | Power Cord Lid                                    | See Contrast table (2) | 16       | Polyethylene Bag   | AHG1340                |
| 3        | Remote Control Unit                               | See Contrast table (2) | 17       | Polyethylene Bag   | AHG1326                |
| 4        | Battery Cover                                     | See Contrast table (2) | 18       | Polyethylene Bag   | AHG1337                |
| 5        | Operating Instructions<br>(Italian,Dutch,Spanish) | See Contrast table (2) | 19       | Pad (427 T-L)      | See Contrast table (2) |
| 6        | Operating Instructions<br>(English,French,German) | See Contrast table (2) | 20       | Pad (427 T-R)      | See Contrast table (2) |
| 7        | Block Diagram                                     | See Contrast table (2) | 21       | Pad (427 B-L)      | See Contrast table (2) |
| NSP 8    | Dry Cell Battery (R06, AA)                        | VEM1031                | 22       | Pad (427 B-R)      | See Contrast table (2) |
| △ 9      | Ferrite Core (L5321)                              | ATX1039                | 23       | Under Carton (427) | See Contrast table (2) |
| 10       | Binder Assy                                       | AEC1908                | 24       | Upper Carton       | See Contrast table (2) |
| NSP 11   | Hexagonal Wrench (6 mm)                           | See Contrast table (2) | 25       | Mirror Mat         | See Contrast table (2) |
| 12       | Cleaning Cloth                                    | AED1285                |          |                    |                        |
| 13       | Caution Card                                      | See Contrast table (2) |          |                    |                        |
| 14       | Cleaning Caution                                  | See Contrast table (2) |          |                    |                        |

## (2) CONTRAST TABLE

PDP-427XD/WYVIXK5, PDP-4270XD/WYVIXK5, PDP-4270XA/WYVIXK5, WYV5, PDP-427XA/WYVIXK5 and WYV5 are constructed the same except for the following:

| Mark | No. | Symbol and Description                            | PDP-427XD<br>/WYVIXK5 | PDP-4270XD<br>/WYVIXK5 | PDP-4270XA<br>/WYVIXK5 | PDP-427XA<br>/WYVIXK5 | PDP-4270XA<br>/WYV5 | PDP-427XA<br>/WYV5 |
|------|-----|---------------------------------------------------|-----------------------|------------------------|------------------------|-----------------------|---------------------|--------------------|
| NSP  | 2   | Power Cord Lid                                    | AHC1087               | AHC1087                | AHC1087                | AHC1087               | AHC1085             | AHC1085            |
|      | 3   | Remote Control Unit                               | AXD1532               | AXD1515                | AXD1541                | AXD1540               | AXD1541             | AXD1540            |
|      | 4   | Battery Cover                                     | AZA7626               | AZA7424                | AZA7424                | AZN2626               | AZA7424             | AZN2626            |
|      | 5   | Operating Instructions<br>(Italian,Dutch,Spanish) | ARC1562               | ARC1565                | Not used               | ARC1564               | Not used            | ARC1563            |
|      | 6   | Operating Instructions<br>(English,French,German) | ARE1428               | ARE1431                | ARE1433                | ARE1430               | ARE1432             | ARE1429            |
|      | 7   | Block Diagram                                     | ARY1189               | ARY1189                | ARY1189                | ARY1189               | Not used            | Not used           |
|      | 11  | Hexagonal Wrench (6 mm)                           | Not used              | AEF1029                | AEF1029                | Not used              | AEF1029             | Not used           |
|      | 13  | Caution Card                                      | ARM1310               | ARM1310                | ARM1310                | ARM1310               | ARM1232             | ARM1232            |
|      | 14  | Cleaning Caution PTK                              | ARM1311               | ARM1311                | ARM1311                | ARM1311               | Not used            | Not used           |
|      | 14  | Wiping Cloth Caution                              | Not used              | Not used               | Not used               | Not used              | ARM1283             | ARM1283            |
|      | 19  | Pad (427 T-L)                                     | AHA2554               | AHA2554                | AHA2554                | AHA2554               | AHA2534             | AHA2534            |
|      | 20  | Pad (427 T-R)                                     | AHA2555               | AHA2555                | AHA2555                | AHA2555               | AHA2535             | AHA2535            |
|      | 21  | Pad (427 B-L)                                     | AHA2600               | AHA2600                | AHA2600                | AHA2600               | AHA2592             | AHA2592            |
|      | 22  | Pad (427 B-R)                                     | AHA2601               | AHA2601                | AHA2601                | AHA2601               | AHA2593             | AHA2593            |
|      | 23  | Under Carton (427)                                | AHD3496               | AHD3496                | AHD3496                | AHD3496               | AHD3471             | AHD3471            |
|      | 24  | Upper Carton                                      | AHD3515               | AHD3514                | AHD3497                | AHD3517               | AHD3513             | AHD3516            |
|      | 25  | Mirror Mat                                        | AHG1327               | AHG1327                | AHG1327                | AHG1327               | AHG1284             | AHG1284            |

## 2.2 REAR SECTION



## (1) REAR SECTION PARTS LIST

| Mark No. | Description            | Part No.               | Mark No. | Description               | Part No.               |
|----------|------------------------|------------------------|----------|---------------------------|------------------------|
| 1        | SIDE KEY Assy          | AWW1133                | 21       | Terminal Panel B          | See Contrast table (2) |
| 2        | SIDE Assy              | AWW1162                | 22       | Function Button Panel     | AMB2906                |
| 3        | Filter                 | CTX1054                | 23       | Side Input Cover          | AMB2911                |
| 4        | Side Input Panel (E)   | ANC2418                | 24       | Function Button (E)       | AAC1565                |
| 5        | Function Button Base   | ANG2923                | 25       | Function Button Sheet (E) | AAK2896                |
| 6        | Side Input Shield      | ANK1834                | 26       | Input Cover Label E       | See Contrast table (2) |
| 7        | Function Button Shield | ANK1835                | 27       | Rear Case (427)           | ANE1655                |
| 8        | Rear Case Cushion      | AEB1439                | 28       | Power Button Holder       | AMR3539                |
| NSP 9    | PCB Support            | AEC1288                | 29       | Screw (3 x 40P)           | ABA1332                |
| 10       | Locking Card Spacer    | AEC2019                | 30       | Screw                     | ABA1341                |
| 11       | Protection Sheet C     | AED1300                | 31       | Screw (4 x 18)            | ABA1353                |
| 12       | Inner Grip Assy        | AMR3434                | 32       | Screw                     | BPZ30P140FTB           |
| NSP 13   | Name Label             | See Contrast table (2) | 33       | Screw                     | AMZ30P060FTB           |
| 14       | Coil Spring            | ABH1125                | 34       | Screw                     | AMZ30P080FTC           |
| 15       | Bolt Caution Label     | See Contrast table (2) | 35       | Screw                     | APZ30P080FTB           |
| 16       | Serial Seal            | AAX3143                | 36       | Screw                     | BPZ30P080FTB           |
| 17       | Power Button           | AAD4145                | 37       | Screw                     | TBZ40P080FTB           |
| 18       | Terminal Label A       | See Contrast table (2) |          |                           |                        |
| 19       | Terminal Label C       | See Contrast table (2) |          |                           |                        |
| 20       | Terminal Label B       | See Contrast table (2) |          |                           |                        |

## (2) CONTRAST TABLE

PDP-427XD/WYVIXK5, PDP-4270XD/WYVIXK5, PDP-4270XA/WYVIXK5, WYV5, PDP-427XA/WYVIXK5 and WYV5 are constructed the same except for the following:

| Mark | No. | Symbol and Description | PDP-427XD<br>/WYVIXK5 | PDP-4270XD<br>/WYVIXK5 | PDP-4270XA<br>/WYVIXK5 | PDP-427XA<br>/WYVIXK5 | PDP-4270XA<br>/WYV5 | PDP-427XA<br>/WYV5 |
|------|-----|------------------------|-----------------------|------------------------|------------------------|-----------------------|---------------------|--------------------|
| NSP  | 13  | Name Label             | AAL2804               | AAL2801                | AAL2803                | AAL2806               | AAL2802             | AAL2805            |
|      | 15  | Bolt Caution Label     | AAX3005               | AAX3005                | AAX3005                | AAX3005               | Not used            | Not used           |
|      | 15  | Caution Label          | Not used              | Not used               | Not used               | Not used              | AAX3117             | AAX3117            |
|      | 18  | Terminal Label A       | AAX3337               | AAX3343                | AAX3399                | AAX3398               | AAX3344             | AAX3332            |
|      | 19  | Terminal Label C       | AAX3339               | AAX3340                | AAX3340                | AAX3339               | AAX3340             | AAX3339            |
|      | 20  | Terminal Label B       | AAX3417               | AAX3419                | AAX3419                | AAX3417               | AAX3419             | AAX3417            |
|      | 21  | Terminal Panel B       | ANC2403               | ANC2429                | ANC2429                | ANC2403               | ANC2429             | ANC2403            |
|      | 26  | Input Cover Label E    | AAX3396               | AAX3397                | AAX3397                | AAX3396               | AAX3376             | AAX3375            |

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# 2.3 FRONT SECTION

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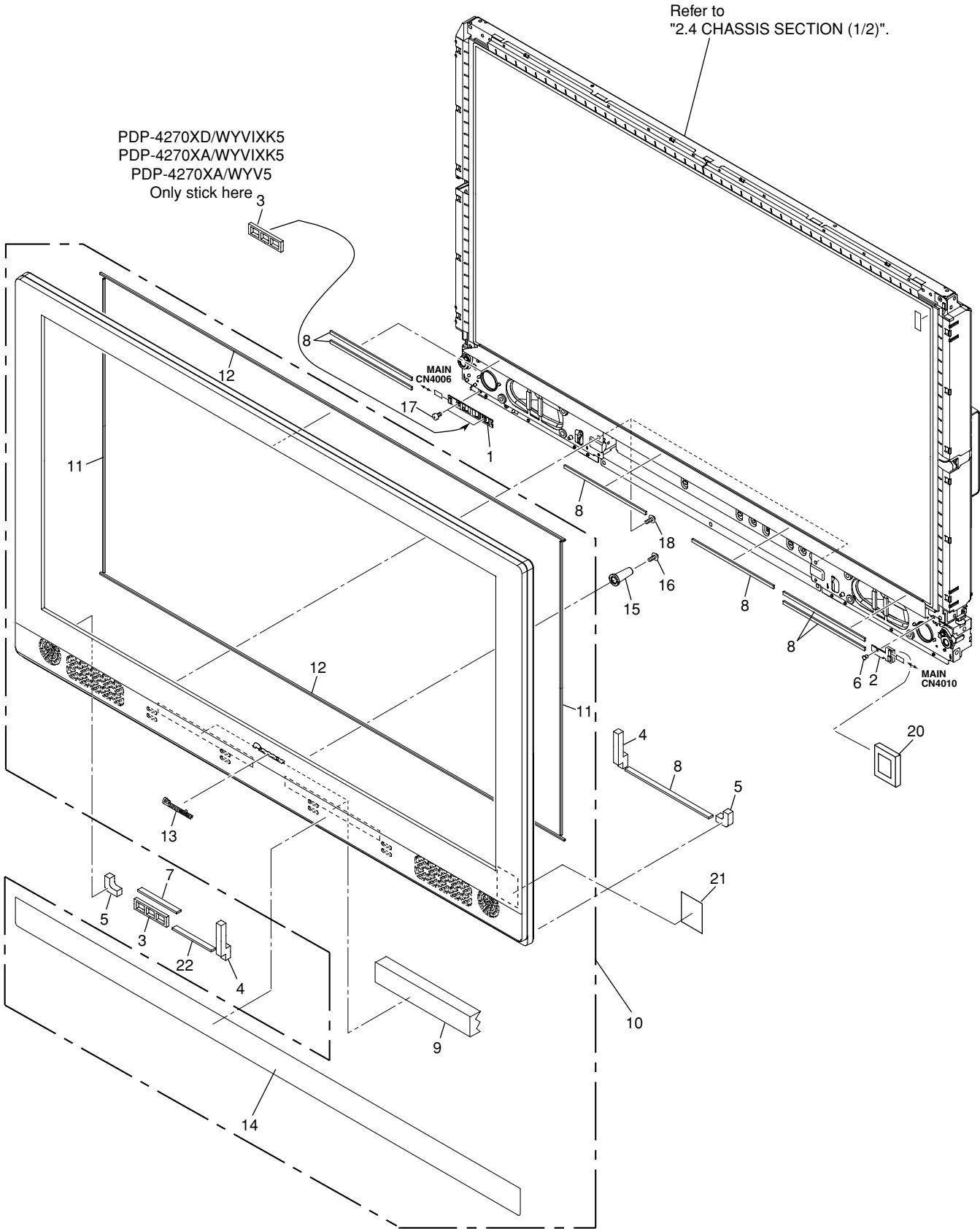
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PDP-4270XD/WYVIXK5  
PDP-4270XA/WYVIXK5  
PDP-4270XA/WYV5  
Only stick here 3

Refer to  
"2.4 CHASSIS SECTION (1/2)".



## (1) FRONT SECTION PARTS LIST

| Mark No. | Description           | Part No.               |
|----------|-----------------------|------------------------|
| 1        | 42 & 60 LED Assy      | AWW1134                |
| 2        | LED IR Assy           | AWW1136                |
| 3        | Blind Cushion (427HX) | AEB1443                |
| 4        | Speaker Cushion       | AEB1452                |
| 5        | Speaker Cushion S     | See Contrast table (2) |
| 6        | Nyron Rivet           | AEC1671                |
| 7        | Insulation Sheet B    | AED1284                |
| 8        | Insulation Sheet      | See Contrast table (2) |
| 9        | Reinforcement Frame   | AMR3620                |
| 10       | Front Case Assy       | See Contrast table (2) |
| 11       | Panel Cushion V (42)  | AED1301                |
| 12       | Panel Cushion H (42)  | AED1309                |
| 13       | Pioneer Name Plate    | AAM1096                |
| 14       | Punching Sheet        | See Contrast table (2) |
| 15       | Front Collar          | AMR3541                |
| 16       | Screw (3 x 30P)       | ABA1350                |
| 17       | Screw (M3 x 4)        | ABA1354                |
| 18       | Screw                 | APZ30P080FTB           |
| 19       | Front Case Cushion    | See Contrast table (2) |
| 20       | IR Block Cushion      | AEB1465                |
| 21       | IR Blind Sheet        | AAX3455                |
| 22       | Insulation Sheet B    | See Contrast table (2) |

## (2) CONTRAST TABLE

PDP-427XD/WYVIXK5, PDP-4270XD/WYVIXK5, PDP-4270XA/WYVIXK5, WYV5, PDP-427XA/WYVIXK5 and WYV5 are constructed the same except for the following:

| Mark | No. | Symbol and Description   | PDP-427XD<br>/WYVIXK5 | PDP-4270XD<br>/WYVIXK5 | PDP-4270XA<br>/WYVIXK5 | PDP-427XA<br>/WYVIXK5 | PDP-4270XA<br>/WYV5 | PDP-427XA<br>/WYV5 |
|------|-----|--------------------------|-----------------------|------------------------|------------------------|-----------------------|---------------------|--------------------|
|      | 5   | Speaker Cushion S        | AEB1460               | Not used               | Not used               | AEB1460               | Not used            | AEB1460            |
|      | 8   | Insulation Sheet         | AED1289               | Not used               | Not used               | AED1289               | Not used            | AED1289            |
|      | 10  | Front Case Assy          | AMB2968               | AMB2971                | AMB2972                | AMB2969               | AMB2972             | AMB2969            |
|      | 14  | Punching Sheet           | AAS1014               | AAS1015                | AAS1015                | AAS1014               | AAS1015             | AAS1014            |
|      | 19  | Front Case Cushion (42B) | AEB1462               | AEB1464                | AEB1464                | AEB1462               | AEB1464             | AEB1462            |
|      | 22  | Insulation Sheet B       | AED1284               | Not used               | Not used               | AED1284               | Not used            | AED1284            |

# 2.4 CHASSIS SECTION (1/2)

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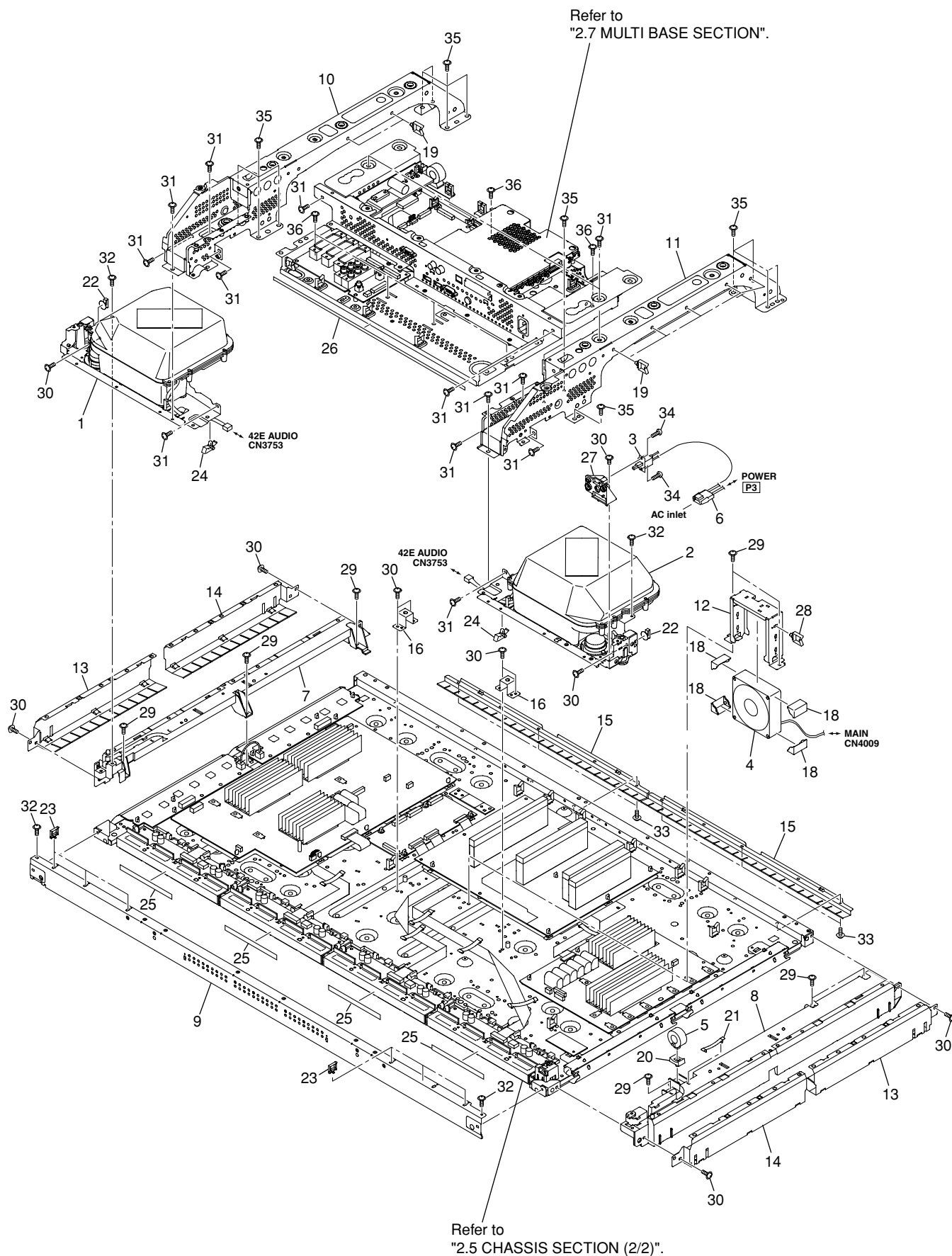
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# CHASSIS SECTION (1/2) PARTS LIST

| Mark | No. | Description                 | Part No.     |   |
|------|-----|-----------------------------|--------------|---|
|      | 1   | Speaker Box Assy L          | AMW1010      |   |
|      | 2   | Speaker Box Assy R          | AMW1011      | A |
| ⚠    | 3   | Power Switch (S1)           | ASG1092      |   |
| ⚠    | 4   | Fan Motor 80 x 25L          | AXM1059      |   |
|      | 5   | Ferrite Core                | ATX1044      |   |
|      | 6   | Housing Wire (42, 50)(J103) | ADX3320      |   |
|      | 7   | Front Chassis VL (427)      | AMA1020      |   |
|      | 8   | Front Chassis VR (427)      | AMA1021      |   |
|      | 9   | Front Chassis H Assy (427)  | ANA2047      |   |
|      | 10  | Sub Frame Assy L (427)      | ANA1943      |   |
|      | 11  | Sub Frame Assy R (427)      | ANA1944      | B |
|      | 12  | Fan Holder                  | ANG2833      |   |
|      | 13  | Panel Holder V1 (427)       | ANG2920      |   |
|      | 14  | Panel Holder V2 (427)       | ANG2921      |   |
|      | 15  | Panel Holder H (427)        | ANG2922      |   |
|      | 16  | Multi Base Holder           | ANG2937      |   |
|      | 17  | •••••                       |              |   |
|      | 18  | Floating Rubber 80          | AEB1427      |   |
|      | 19  | Wire Saddle                 | AEC1745      |   |
|      | 20  | Ferrite Core Holder         | AEC1818      | C |
|      | 21  | Flat Clamp                  | AEC1879      |   |
|      | 22  | Locking Wire Saddle         | AEC1948      |   |
|      | 23  | Mini Clamp                  | AEC2090      |   |
|      | 24  | Re-use Wire Saddle          | AEC2091      |   |
|      | 25  | Address Gasket (42)         | ANK1877      |   |
| ⚠    | 26  | Gasket D                    | ANK1840      |   |
|      | 27  | Switch Holder               | AMR3540      |   |
|      | 28  | Re-use Wire Saddle          | AEC1945      |   |
|      | 29  | Screw                       | ABA1351      |   |
|      | 30  | Screw                       | ABZ30P080FTC | D |
|      | 31  | Screw                       | AMZ30P060FTB |   |
|      | 32  | Screw                       | APZ30P080FTB |   |
|      | 33  | Screw                       | BBZ30P060FTC |   |
|      | 34  | Screw                       | BPZ30P080FTB |   |
|      | 35  | Screw                       | TBZ40P080FTB |   |
|      | 36  | Screw                       | ABA1364      | E |

# 2.5 CHASSIS SECTION (2/2)

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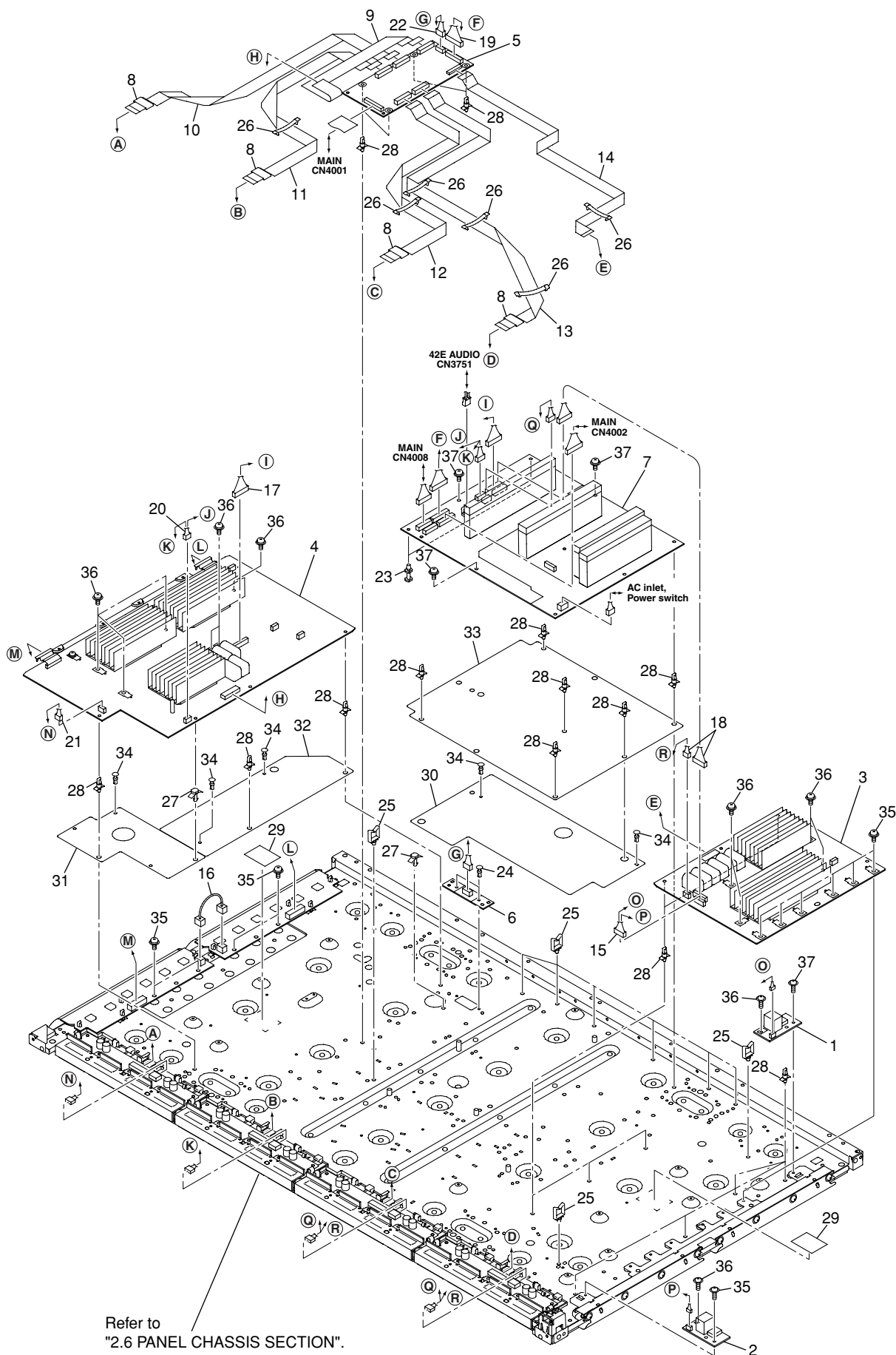
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## CHASSIS SECTION (2/2) PARTS LIST

| Mark No. | Description                 | Part No. |
|----------|-----------------------------|----------|
| 1        | SUS CLAMP 1 Assy            | AWW1022  |
| 2        | SUS CLAMP 2 Assy            | AWW1023  |
| 3        | 42 X DRIVE Assy             | AWW1196  |
| 4        | 42 Y DRIVE Assy             | AWV2400  |
| 5        | 42 DIGITAL Assy             | AWW1240  |
| 6        | SENSOR Assy                 | AWW1140  |
| 7        | POWER SUPPLY Unit           | AXY1153  |
| 8        | Ferrite Core                | ATX1048  |
| 9        | Flexible Cable (J201)       | ADD1429  |
| 10       | Flexible Cable (J202)       | ADD1430  |
| 11       | Flexible Cable (J203)       | ADD1431  |
| 12       | Flexible Cable (J204)       | ADD1432  |
| 13       | Flexible Cable (J205)       | ADD1433  |
| 14       | Flexible Cable (J206)       | ADD1434  |
| 15       | 6P Housing Wire (J118)      | ADX3118  |
| 16       | 3P Housing Wire (J119)      | ADX3122  |
| 17       | 9P Housing Wire (J101)      | ADX3318  |
| 18       | 8P&5/4P Housing Wire (J102) | ADX3319  |
| 19       | 14P Housing Wire (J105)     | ADX3323  |
| 20       | 6P/4P Housing Wire (J108)   | ADX3326  |
| 21       | 4P Housing Wire (J109)      | ADX3327  |
| 22       | 5P Housing Wire (J110)      | ADX3328  |
| 23       | Spacer                      | AEC1065  |
| 24       | Nyron Rivet                 | AEC1671  |
| 25       | Wire Saddle                 | AEC1745  |
| 26       | Flat Clamp                  | AEC1879  |
| 27       | PCB Support                 | AEC1938  |
| 28       | Re-use PCB Spacer           | AEC2087  |
| 29       | Drive Silicone Sheet        | AEH1095  |
| 30       | Power Supply Sheet B (507)  | AMR3555  |
| 31       | Y Drive Protection Sheet A  | AMR3632  |
| 32       | Y Drive Protection Sheet B  | AMR3633  |
| 33       | Power Supply Sheet (427) A  | AMR3648  |
| 34       | Rivet A                     | BEC1158  |
| 35       | Screw                       | ABA1364  |
| 36       | Screw                       | ABA1351  |
| 37       | Screw                       | ABA1368  |

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# 2.6 PANEL CHASSIS SECTION

A

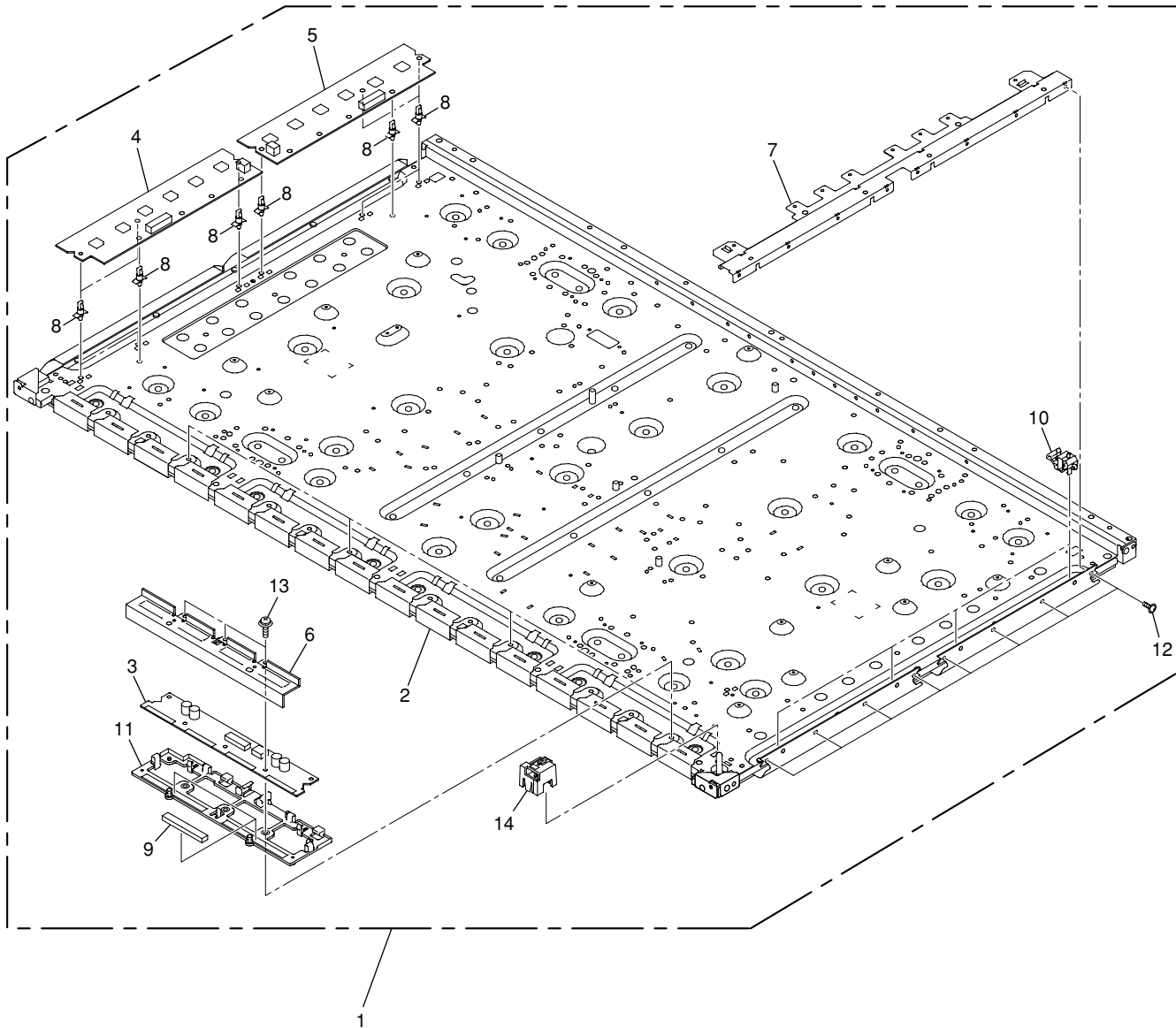
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## (1) PANEL CHASSIS SECTION PARTS LIST

| Mark No. | Description               | Part No.               |
|----------|---------------------------|------------------------|
| NSP 1    | Panel Chassis (427S) Assy | See Contrast table (2) |
| NSP 2    | Plasma Panel (42DC) Assy  | AWU1161                |
| NSP 3    | 42 ADDRESS Assy           | AWV2335                |
| NSP 4    | 42 SCAN A Assy            | AWW1182                |
| NSP 5    | 42 SCAN B Assy            | AWW1183                |
| 6        | Address Heatsink          | ANH1644                |
| 7        | Conductive Plate X        | ANG2791                |
| 8        | Re-use PCB Spacer         | AEC2087                |
| 9        | Address Silicone A        | AEH1093                |
| 10       | Conductive Plate Holder   | AMR3446                |
| 11       | Address Holder Assy       | AMR3460                |
| 12       | Screw                     | ABA1364                |
| 13       | Screw                     | BBB30P120FNI           |
| 14       | Tube Cover (FT)           | AMR3557                |

## (2) CONTRAST TABLE

PDP-427XD/WYVIXK5, PDP-4270XD/WYVIXK5, PDP-4270XA/WYVIXK5, WYV5, PDP-427XA/WYVIXK5 and WYV5 are constructed the same except for the following:

| Mark | No. | Symbol and Description    | PDP-427XD<br>/WYVIXK5 | PDP-4270XD<br>/WYVIXK5 | PDP-4270XA<br>/WYVIXK5 | PDP-427XA<br>/WYVIXK5 | PDP-4270XA<br>/WYV5 | PDP-427XA<br>/WYV5 |
|------|-----|---------------------------|-----------------------|------------------------|------------------------|-----------------------|---------------------|--------------------|
| NSP  | 1   | Panel Chassis (427S) Assy | AWU1185               | AWU1185                | AWU1185                | AWU1185               | AWU1207             | AWU1207            |

△

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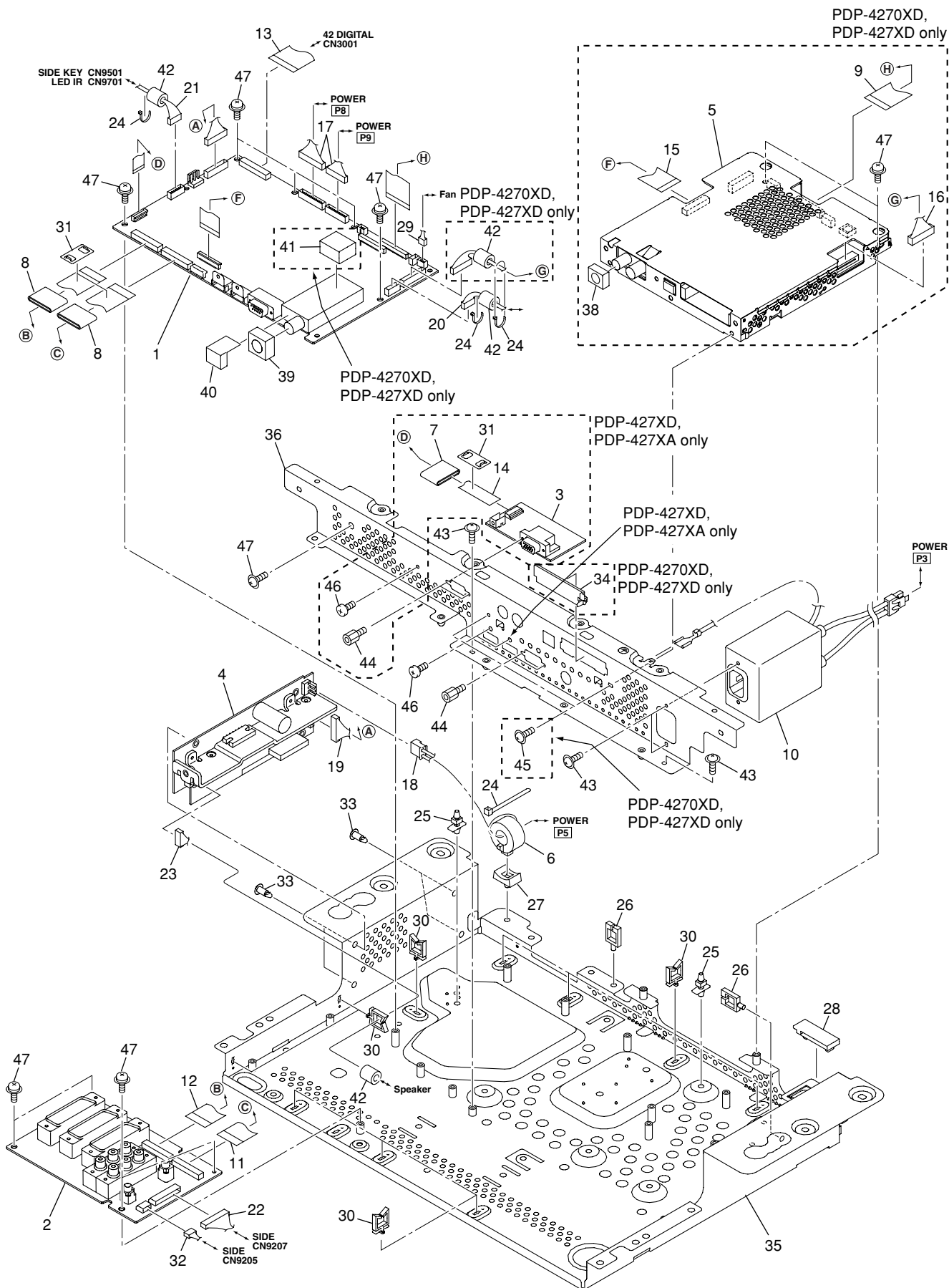
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## (1) MULTI BASE SECTION PARTS LIST

| Mark No. | Description                 | Part No.               | Mark No. | Description            | Part No.               |   |
|----------|-----------------------------|------------------------|----------|------------------------|------------------------|---|
| 1        | MAIN Assy                   | See Contrast table (2) | 26       | Wire Saddle            | AEC1745                |   |
| 2        | TANSHI Assy                 | See Contrast table (2) | 27       | Ferrite Core Holder    | AEC1818                | A |
| 3        | PC Assy                     | See Contrast table (2) | 28       | Clamp                  | AEC1884                |   |
| 4        | 42E AUDIO Assy              | AWW1185                | 29       | 3P Housing Wire (J127) | ADX3421                |   |
| 5        | R07 DT Assy                 | See Contrast table (2) | 30       | Re-use Wire Saddle     | AEC1945                |   |
| 6        | Ferrite Core                | ATX1044                | 31       | Ferrite Stopper        | AEC1981                |   |
| 7        | Ferrite Core                | See Contrast table (2) | 32       | 5P Housing Wire (J125) | ADX3388                | ■ |
| 8        | Ferrite Core                | ATX1064                | 33       | Locking Card Spacer    | AEC2019                |   |
| 9        | Flexible Cable (J214)       | See Contrast table (2) | 34       | POD Cover              | See Contrast table (2) |   |
| ⚠ 10     | AC Inlet (CN1)              | AKP1301                | 35       | Multi Base Assy        | See Contrast table (2) |   |
| 11       | Flexible Cable (J210)       | ADD1441                | 36       | Terminal Panel A       | See Contrast table (2) | B |
| 12       | Flexible Cable (J211)       | ADD1441                | 37       | •••••                  |                        |   |
| 13       | Flexible Cable (J207)       | ADD1445                | ⚠ 38     | Gasket N               | See Contrast table (2) |   |
| 14       | Flexible Cable (J213)       | See Contrast table (2) | ⚠ 39     | Gasket EA              | ANK1855                |   |
| 15       | Flexible Cable (J215)       | See Contrast table (2) | ⚠ 40     | Gasket EB              | ANK1899                |   |
| 16       | 12P Housing Wire (J126)     | See Contrast table (2) | ⚠ 41     | Gasket ED              | See Contrast table (2) | ■ |
| 17       | 13P&11P Housing Wire (J106) | ADX3324                | 42       | Filter                 | CTX1054                |   |
| 18       | 3P Housing Wire (J107)      | ADX3325                | 43       | Screw                  | AMZ30P060FTB           |   |
| 19       | 11P Housing Wire (J111)     | ADX3329                | 44       | Hex. Head Screw        | BBA1051                |   |
| 20       | 6P Housing Wire (J113)      | ADX3331                | 45       | Screw                  | See Contrast table (2) | C |
| 21       | 7/6/4P Housing Wire (J114)  | ADX3332                | 46       | Screw                  | BMZ30P060FTB           |   |
| 22       | 14P Housing Wire (J116)     | ADX3334                | 47       | Screw                  | PMB30P080FNI           |   |
| 23       | 8/4P Housing Wire (J117)    | ADX3336                |          |                        |                        |   |
| 24       | Binder                      | AEC-093                |          |                        |                        |   |
| 25       | Locking Card Spacer         | AEC1429                |          |                        |                        | ■ |

## (2) CONTRAST TABLE

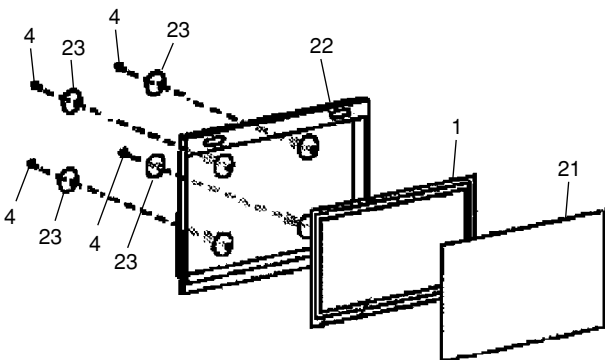
PDP-427XD/WYVIXK5, PDP-4270XD/WYVIXK5, PDP-4270XA/WYVIXK5, WYV5, PDP-427XA/WYVIXK5 and WYV5 are constructed the same except for the following:

| Mark | No. | Symbol and Description  | PDP-427XD<br>/WYVIXK5 | PDP-4270XD<br>/WYVIXK5 | PDP-4270XA<br>/WYVIXK5 | PDP-427XA<br>/WYVIXK5 | PDP-4270XA<br>/WYV5 | PDP-427XA<br>/WYV5 |   |
|------|-----|-------------------------|-----------------------|------------------------|------------------------|-----------------------|---------------------|--------------------|---|
|      | 1   | MAIN Assy               | AWV2318               | AWV2320                | AWV2320                | AWV2318               | AWV2320             | AWV2318            | ■ |
|      | 2   | TANSHI Assy             | AWW1161               | AWW1178                | AWW1178                | AWW1161               | AWW1178             | AWW1161            |   |
|      | 3   | PC Assy                 | AWW1163               | Not used               | Not used               | AWW1163               | Not used            | AWW1163            |   |
|      | 5   | R07 DT Assy             | AWE1311               | AWE1311                | Not used               | Not used              | Not used            | Not used           |   |
|      | 7   | Ferrite Core            | ATX1063               | Not used               | Not used               | ATX1063               | Not used            | ATX1063            |   |
|      | 9   | Flexible Cable (J214)   | ADD1450               | ADD1450                | Not used               | Not used              | Not used            | Not used           | E |
|      | 14  | Flexible Cable (J213)   | ADD1452               | Not used               | Not used               | ADD1452               | Not used            | ADD1444            |   |
|      | 15  | Flexible Cable (J215)   | ADD1451               | ADD1451                | Not used               | Not used              | Not used            | Not used           |   |
|      | 16  | 12P Housing Wire (J126) | ADX3390               | ADX3390                | Not used               | Not used              | Not used            | Not used           |   |
|      | 34  | POD Cover               | AMR3542               | AMR3542                | Not used               | Not used              | Not used            | Not used           | ■ |
|      | 35  | Multi Base Assy         | ANA1952               | ANA1952                | ANA2019                | ANA2019               | ANA2019             | ANA2019            |   |
|      | 36  | Terminal Panel A        | ANC2398               | ANC2400                | ANC2415                | ANC2399               | ANC2415             | ANC2399            |   |
| ⚠    | 38  | Gasket N                | ANK1776               | ANK1776                | Not used               | Not used              | Not used            | Not used           |   |
| ⚠    | 41  | Gasket ED               | ANK1863               | ANK1863                | Not used               | Not used              | Not used            | Not used           |   |
|      | 45  | Screw                   | BBZ30P060FTB          | BBZ30P060FTB           | Not used               | Not used              | Not used            | Not used           | F |

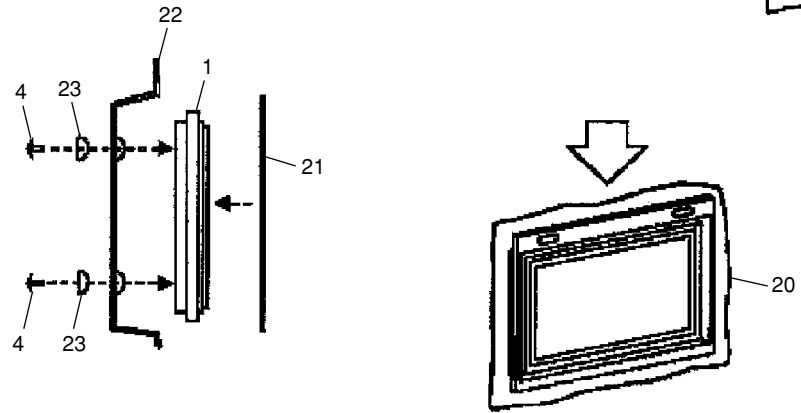
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## 2.8 PDP SERVICE PANEL ASSY 427 (AWU1208)

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B



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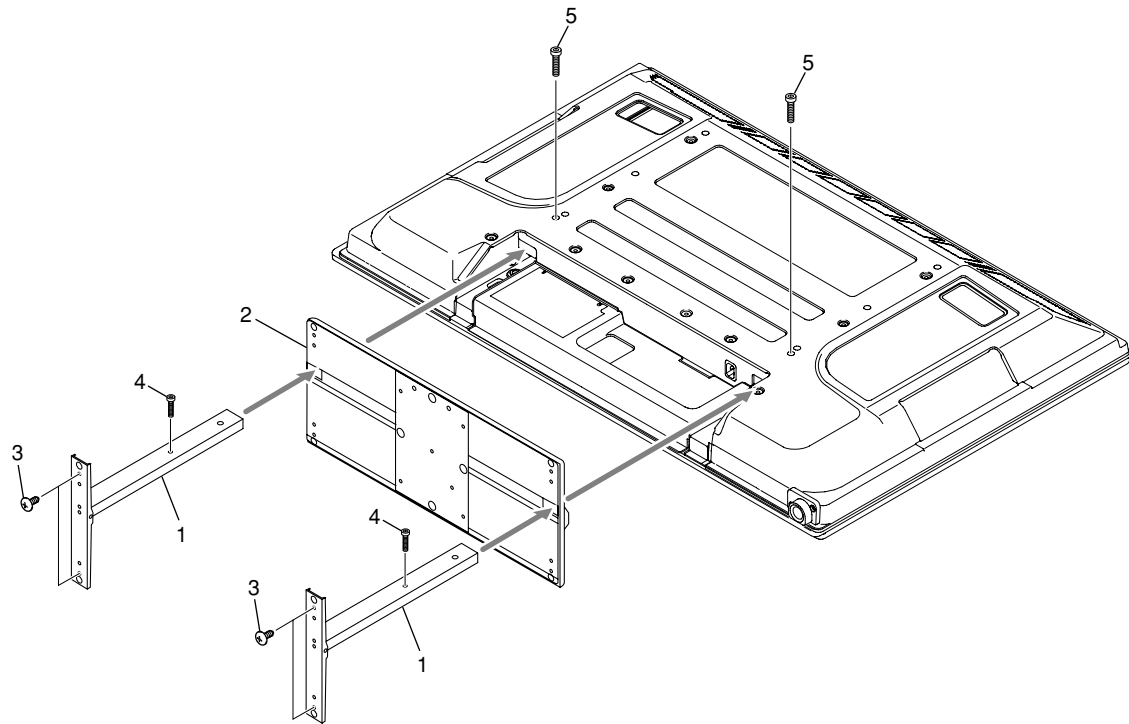
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### PDP SERVICE PANEL ASSY 427 (AWU1208) PARTS LIST

| Mark No. | Description                | Part No.     | Mark No. | Description             | Part No. |
|----------|----------------------------|--------------|----------|-------------------------|----------|
| NSP 1    | Panel Chassis (427) Assy   | AWU1171      | 16       | Pad 42SINGLE(B-L)       | AHA2552  |
| 2        | Caution Label              | AAX3031      | 17       | Pad 42SINGLE(B-R)       | AHA2553  |
| NSP 3    | Drive Voltage Label        | ARW1097      | 18       | Upper Carton (42SINGLE) | AHD3480  |
| 4        | Screw                      | PMB50P150FTC | 19       | Under Carton (42SINGLE) | AHD3481  |
| 5        | Screw                      | ABA1351      | 20       | Polyethylene Bag        | AHG1381  |
| 6        | Wire Saddle                | AEC1745      | 21       | Packing Sheet           | AHG1386  |
| E 7      | PCB Support                | AEC1938      | 22       | Tray (FT)               | AHX1158  |
| 8        | Vinyl Bag S                | AHG1338      | 23       | Cup Spacer (15)         | ANG2936  |
| NSP 9    | Vinyl Bag                  | AHG1340      |          |                         |          |
| 10       | Y Drive Protection Sheet A | AMR3632      |          |                         |          |
| 11       | Power Sheet (427) A        | AMR3648      |          |                         |          |
| 12       | Address Gasket (42)        | ANK1877      |          |                         |          |
| 13       | Rivet A                    | BEC1158      |          |                         |          |
| 14       | Pad 42SINGLE(T-L)          | AHA2550      |          |                         |          |
| 15       | Pad 42SINGLE(T-R)          | AHA2551      |          |                         |          |

F

## 2.9 TABLE TOP STAND (PDP-4270XD and PDP-4270XA ONLY)



### TABLE TOP STAND PARTS LIST

| Mark | No. | Description     | Part No.               |
|------|-----|-----------------|------------------------|
|      | 1   | Stand Pipe Assy | See Contrast table (2) |
|      | 2   | Base Cover Assy | See Contrast table (2) |
|      | 3   | Screw           | ABA1357                |
|      | 4   | Screw (HEX)     | SMZ80H300FTC           |
|      | 5   | Screw (HEX)     | ABA1365                |

### (2) CONTRAST TABLE

PDP-4270XD/WYVIXK5, PDP-4270XA/WYVIXK5 and PDP-4270XA/WYV5 are constructed the same except for the following:

| Mark | No. | Symbol and Description | PDP-4270XD<br>/WYVIXK5 | PDP-4270XA<br>/WYVIXK5 | PDP-4270XA<br>/WYV5 |
|------|-----|------------------------|------------------------|------------------------|---------------------|
|      | 1   | Stand Pipe Assy        | AXY1158                | AXY1158                | AXY1144             |
|      | 2   | Base Cover Assy        | AXY1161                | AXY1161                | AXY1143             |

1 2 3 4

### 3. PCB PARTS LIST

NOTES: ●Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.  
●The ⚠ mark found on some component parts indicates the importance of the safety factor of the part.  
Therefore, when replacing, be sure to use parts of identical designation.  
●When ordering resistors, first convert resistance values into code form as shown in the following examples.  
Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).  
560 Ω → 56 x 10<sup>1</sup> → 561 ..... RD1/4PU 561 J  
47k Ω → 47 x 10<sup>3</sup> → 473 ..... RD1/4PU 473 J  
0.5 Ω → R50 ..... RN2H R50 K  
1 Ω → 1R0 ..... RS1P 1R0 K  
Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).  
5.62k Ω → 562 x 10<sup>1</sup> → 5621 ..... RN1/4PC 5621 F

■ LIST OF WHOLE PCB ASSEMBLIES

| Mark | Symbol and Description       | PDP-427XD<br>/WYVIXK5 | PDP-4270XD<br>/WYVIXK5 | PDP-4270XA<br>/WYVIXK5 | PDP-427XA<br>/WYVIXK5 | PDP-4270XA<br>/WYV5 | PDP-427XA<br>/WYV5 |
|------|------------------------------|-----------------------|------------------------|------------------------|-----------------------|---------------------|--------------------|
| NSP  | 1..R07 DT ASSY               | AWE1311               | AWE1311                | Not used               | Not used              | Not used            | Not used           |
|      | 1..MAIN ASSY                 | AWV2318               | AWV2320                | AWV2320                | AWV2318               | AWV2320             | AWV2318            |
|      | 1..IO ASSY                   | AWV2319               | AWV2321                | AWV2321                | AWV2319               | AWV2321             | AWV2319            |
|      | 2..TANSI ASSY                | AWW1178               | AWW1161                | AWW1161                | AWW1178               | AWW1161             | AWW1161            |
|      | 2..SIDE ASSY                 | AWW1162               | AWW1162                | AWW1162                | AWW1162               | AWW1162             | AWW1162            |
| NSP  | 2..PC ASSY                   | AWW1163               | Not used               | Not used               | AWW1163               | Not used            | AWW1163            |
|      | 1..42E AUDIO ASSY            | AWV2369               | AWV2369                | AWV2369                | AWV2369               | AWV2369             | AWV2369            |
|      | 2..SIDE KEY ASSY             | AWW1133               | AWW1133                | AWW1133                | AWW1133               | AWW1133             | AWW1133            |
|      | 2..42 & 60 LED ASSY          | AWW1134               | AWW1134                | AWW1134                | AWW1134               | AWW1134             | AWW1134            |
|      | 2..LED IR ASSY               | AWW1136               | AWW1136                | AWW1136                | AWW1136               | AWW1136             | AWW1136            |
| NSP  | 2..42E AUDIO ASSY            | AWW1185               | AWW1185                | AWW1185                | AWW1185               | AWW1185             | AWW1185            |
|      | 1..42 X DRIVE ASSY           | AWV2399               | AWV2399                | AWV2399                | AWV2399               | AWV2399             | AWV2399            |
|      | 2..SUS CLAMP 1 ASSY          | AWW1022               | AWW1022                | AWW1022                | AWW1022               | AWW1022             | AWW1022            |
|      | 2..SUS CLAMP 2 ASSY          | AWW1023               | AWW1023                | AWW1023                | AWW1023               | AWW1023             | AWW1023            |
|      | 2..42 X DRIVE ASSY           | AWW1196               | AWW1196                | AWW1196                | AWW1196               | AWW1196             | AWW1196            |
| NSP  | 1..42 Y DRIVE ASSY           | AWV2400               | AWV2400                | AWV2400                | AWV2400               | AWV2400             | AWV2400            |
|      | 1..42 DIGITAL ASSY           | AWV2435               | AWV2435                | AWV2435                | AWV2435               | AWV2435             | AWV2435            |
|      | 2..SENSOR ASSY               | AWW1140               | AWW1140                | AWW1140                | AWW1140               | AWW1140             | AWW1140            |
|      | 2..42 DIGITAL ASSY           | AWW1240               | AWW1240                | AWW1240                | AWW1240               | AWW1240             | AWW1240            |
|      | 1..PANEL CHASSIS (427S) ASSY | AWU1185               | AWU1185                | AWU1185                | AWU1185               | AWU1185             | AWU1185            |
| NSP  | 2..42 ADDRESS ASSY           | AWV2335               | AWV2335                | AWV2335                | AWV2335               | AWV2335             | AWV2335            |
| NSP  | 2..42 SCAN ASSY              | AWV2362               | AWV2362                | AWV2362                | AWV2362               | AWV2362             | AWV2362            |
| NSP  | 3..42 SCAN A ASSY            | AWW1182               | AWW1182                | AWW1182                | AWW1182               | AWW1182             | AWW1182            |
| NSP  | 3..42 SCAN B ASSY            | AWW1183               | AWW1183                | AWW1183                | AWW1183               | AWW1183             | AWW1183            |
| ⚠    | 1..POWER SUPPLY UNIT         | AXY1153               | AXY1153                | AXY1153                | AXY1153               | AXY1153             | AXY1153            |

## ■ CONTRAST OF PCB ASSEMBLIES

### MAIN ASSY

AWV2320 and AWV2318 are constructed the same except for the following :

| Mark | Symbol and Description                    | AWV2320      | AWV2318         |
|------|-------------------------------------------|--------------|-----------------|
|      | IC5103                                    | Not used     | TVP5150AM1PBS-K |
|      | IC5404                                    | Not used     | BR24L02FJ       |
|      | IC8305                                    | Not used     | TC74VHC00FTS1   |
|      | Q5402                                     | Not used     | HN1K02FU        |
|      | Q5408                                     | Not used     | UMD2N           |
|      | Q5414                                     | Not used     | RN1902          |
|      | Q8302                                     | Not used     | 2SA1586         |
|      | Q8303, Q8304                              | Not used     | DTC124EUA       |
|      | Q8311                                     | Not used     | 2SJ461A         |
|      | D5402                                     | Not used     | 1SS301          |
|      | D5408                                     | Not used     | UDZS6R8(B)      |
|      | D8301 - D8303                             | Not used     | 1SS355          |
|      | C4922, C4932, C4933, C5101, C5102, C5103  | Not used     | CKSRYB105K10    |
|      | C5104, C5105                              | Not used     | CCSSCH100D50    |
|      | C5117, C5123, C5125, C5126, C5449 - C5451 | Not used     | CKSSYF104Z16    |
|      | C5121, C5122, C5124, C8320                | Not used     | CKSSYB104K10    |
|      | C5452, C8319                              | Not used     | DCH1201         |
|      | C5453                                     | Not used     | CCSSCH101J50    |
|      | R4031                                     | Not used     | RS1/16S0R0J     |
|      | R4056, R8344                              | Not used     | RS1/16SS0R0J    |
|      | R4057                                     | RS1/16SS0R0J | Not used        |
|      | R4728, R4729, R4904, R4905, R4910         | Not used     | RS1/16SS220J    |
|      | R4809, R4810                              | Not used     | RS1/16SS562J    |
|      | R4964, R4965, R4966                       | Not used     | RS1/16S75R0F    |
|      | R5103                                     | Not used     | ACN1246         |
|      | R5121, R8347, R8359                       | Not used     | RS1/16SS332J    |
|      | R5122, R5419, R8476                       | Not used     | RS1/16SS103J    |
|      | R5124, R5125, R5126                       | Not used     | RS1/16SS470J    |
|      | R5147                                     | Not used     | RAB4CQ220J      |
|      | R5421, R8364                              | Not used     | RS1/16SS101J    |
|      | R5422                                     | Not used     | RS1/16SS473J    |
|      | R5423, R5424                              | Not used     | RS1/16SS100J    |
|      | R5433, R8353                              | Not used     | RS1/16SS102J    |
|      | R8354                                     | Not used     | RS1/16SS122J    |
|      | R8355                                     | Not used     | RS1/16SS104J    |
|      | R8356, R8358                              | Not used     | RS1/16S122J     |
|      | R8357                                     | Not used     | RS1/16S220J     |
|      | R8376                                     | RS1/10S0R0J  | Not used        |
|      | R8379, R8380                              | RS1/16SS223J | Not used        |
|      | R8477, R8480                              | RS1/16SS103J | Not used        |
|      | X5101 CRYSTAL                             | Not used     | ASS1189         |
|      | CN4018 12P FFC CONNECTOR                  | Not used     | AKM1233         |
|      | JA5402 HDMI CONNECTOR                     | Not used     | AKP1278         |



| 5                          | 6               | 7                    | 8                |             |
|----------------------------|-----------------|----------------------|------------------|-------------|
| Mark No.                   | Description     | Part No.             | Mark No.         | Description |
| CAPACITORS                 |                 |                      | CAPACITORS       |             |
| C2000,2026,2030            | CCSRCH101J50    | C4000,4002           | CCG1205          | A           |
| C2001                      | CKSRYB471K50    | C4001,4014,4032,4033 | CKSRYB103K50     |             |
| C2002,2003,2005,2006       | CKSRYF104Z16    | C4003,4005,4017,4018 | CKSRYF104Z16     |             |
| C2004                      | CKSRYF474Z16    | C4004                | CEHVKW2R2M50     |             |
| C2007                      | CCSRCH471J50    | C4006                | CKSRYB102K50     |             |
| C2008,2017,2020,2021       | CKSRYB102K50    | C4007,4013           | CCSRCH220J50     |             |
| C2009                      | CCSRCH330J50    | C4008,4009           | CCSRCH121J50     |             |
| C2011,2012                 | CCSRCH390J50    | C4010,4011,4042      | CCSRCH101J50     |             |
| C2013                      | CKSRYB105K10    | C4012,4022,4023,4029 | CEHVKW470M16     |             |
| C2014,2016                 | CCSRCH100D50    | C4019,4102-4104      | CEHVKW100M16     |             |
| C2015                      | CKSRYF105Z10    | C4021,4024,4043      | CKSRYF104Z16     |             |
| C2018,2019,2022-2025       | CKSRYF104Z16    | C4038                | CKSRYB103K50     | B           |
| C2027,2029,2042,2046       | CKSRYF223Z50    | C4039                | CEHVKW470M16     |             |
| C2028,2035,2037-2041       | CKSRYF104Z16    | C4040,4041           | CKSRYB105K10     |             |
| C2032-2034,2036            | CEHVKW470M16    | C4105-4107           | CKSRYF104Z16     |             |
| C2043-2045,2047,2048       | CKSRYF104Z16    | C4108-4113           | CEHVKW100M16     |             |
| [MEMORY BLOCK]             |                 | [CI BLOCK]           |                  |             |
| SEMICONDUCTORS             |                 | SEMICONDUCTORS       |                  |             |
| IC3000,3003                | K4S281632I-UC75 | IC5000               | ST890CDR         | C           |
| IC3002                     | XGC1003         | IC5001               | CIMAXSP2L        |             |
| MISCELLANEOUS              |                 | IC5002               | TC74LCX245FTS1   |             |
| L3003                      | XTX1003         | IC5003,5004          | TC74LCX373FT     |             |
| L3005                      | XTX1001         | Q5000                | 2SC4081          |             |
| RESISTORS                  |                 | Q5001                | DTA143EUA        |             |
| R3004-3014                 | RAB4CQ470J      | Q5002                | DTC124EUA        |             |
| Other Resistors            | RS1/16S###J     | MISCELLANEOUS        |                  |             |
| CAPACITORS                 |                 | CN5000               | PCMCIA CONNECTOR |             |
| C3000,3003,3007,3008       | CKSRYF104Z16    | RESISTORS            |                  |             |
| C3001,3002,3004,3014       | CKSRYF223Z50    | R5014,5019,5022,5024 | RAB4CQ470J       | D           |
| C3010                      | CEHVKW470M16    | R5030,5032,5036-5038 | RAB4CQ470J       |             |
| C3012,3017,3020-3022       | CKSRYF104Z16    | R5045-5050           | RAB4CQ470J       |             |
| C3015,3018,3019,3023       | CKSRYF223Z50    | Other Resistors      | RS1/16S###J      |             |
| C3024                      | CKSRYF223Z50    | CAPACITORS           |                  |             |
| [AV BLOCK]                 |                 | C5001                | CKSRYB105K10     |             |
| SEMICONDUCTORS             |                 | C5003,5004,5006      | CKSRYF104Z16     |             |
| IC4000                     | CS4334-KS       | C5005,5100           | CEHVKW470M16     |             |
| IC4001                     | SN74LVU04APW    | C5008-5013           | CKSRYF104Z16     |             |
| IC4002                     | RC4558D         | [POWER BLOCK]        |                  |             |
| IC4003                     | CS8406CZZ       | SEMICONDUCTORS       |                  |             |
| IC4100                     | PCM1803DB       | IC6001               | M5291FP          | E           |
| Q4001,4002                 | 2SC4081         | IC6002               | BA05FP           |             |
| MISCELLANEOUS              |                 | IC6003               | FPF2003          |             |
| F4000,4100 FERRITE CORE    | VTF1091         | IC6200               | TC74LCX245FTS1   |             |
| JA4000 OPTICAL OUT MOD.    | GP1FM513TZ      | IC6300               | SN74LVC1G08DCK   |             |
| X4000 CRYSTAL (12.288 MHz) | XSS1006         | Q6001,6009,6011,6200 | DTC124EUA        |             |
| CN4000 40P CONNECTOR       | AKM1348         | Q6003,6005,6010      | DTA143EUA        |             |
| RESISTORS                  |                 | Q6006                | 2SB1188          |             |
| R4042,4045,4046            | RS1/16S2000F    | Q6008                | TPC8209          |             |
| Other Resistors            | RS1/16S###J     | Q6100                | 2SC4081          |             |
|                            |                 | D6001                | RSX201L-30       | F           |
|                            |                 | D6003,6100-6102      | 1SS355           |             |
|                            |                 | D6103                | UDZS30(B)        |             |

**Mark No. Description****Part No.****Mark No. Description****Part No.****MISCELLANEOUS**

L6000  
L6001,6100,6101  
F6000 FERRITE CORE  
CN6000 12P CONNECTOR  
CN6003 50P CONNECTOR

LCYAR82J2520  
XTH1001  
VTF1091  
AKM1298  
AKM1349

**RESISTORS**

R6012-6014  
R6031  
R6204,6205  
Other Resistors

RAB4C2R2J  
RAB4C221J  
RAB4CQ101J  
RS1/16S###J

**CAPACITORS**

C6000,6026,6104-6106  
C6001,6011,6013-6015  
C6002,6035  
C6003,6005,6006,6012  
C6004

CEHVKW331M6R3  
CEHVKW470M16  
CKSRYF223Z50  
CKSRYF104Z16  
CEHVKW100M50

C6008,6016  
C6010  
C6017,6028,6036,6042  
C6018,6020,6021,6025  
C6019,6023,6100

CKSRYF474Z16  
CCSRCH331J50  
CEHVKW101M6R3  
CKSRYF104Z16  
CEHVKW470M16

C6022  
C6027  
C6029,6030,6033,6038  
C6031  
C6044

CKSRYB103K50  
CCSRCH101J50  
CKSRYF104Z16  
CEHVKW2R2M50  
CEHVKW101M6R3

C6102  
C6200,6300

CCG1191  
CKSRYF104Z16

**MAIN ASSY****[BOARD IF BLOCK]****SEMICONDUCTORS**

IC4001-4005  
Q4001,4002,4005  
Q4003,4004

TC74VCX541FT  
DTC124EUA  
RN2902

**MISCELLANEOUS**

L4001-4006  
⚠ F4001-4010  
CN4001,4004,4005 50P CONNECTOR  
CN4006 PLUG(6P)  
CN4013 50P CONNECTOR PBF

BTX1042  
CTF1557  
AKM1349  
KM200NA6  
AKM1353

CN4014 40P CONNECTOR PBF

AKM1354

**RESISTORS**

R4001  
R4021-4024  
R4030,4035  
Other Resistors

RAB4CQ470J  
BCN1067  
RS1/16S0R0J  
RS1/16SS###J

**CAPACITORS**

C4001-4003,4007,4009  
C4004  
C4006,4036,4039  
C4008  
C4014

CKSSYF104Z16  
CCSSCH101J50  
DCH1201  
DCH1165  
CKSSYF104Z16

C4033,4051

CKSRYF104Z50

C4048-4050

**[REG 0 BLOCK]****SEMICONDUCTORS**

IC4101,4114,4115  
IC4102  
IC4103  
IC4104,4111,4113  
IC4105

IC4106  
IC4107  
IC4108  
IC4109,4110  
Q4101,4103

Q4102  
Q4104  
Q4105,4106  
Q4107-4109  
Q4110

D4101-4110,4112-4118  
D4111,4119,4120,4122  
D4121

**MISCELLANEOUS**

L4101,4103  
L4102,4105-4107  
L4108  
L4109  
F4101,4102

**RESISTORS**

R4113,4134-4136,4140  
R4119,4131,4146  
R4120  
R4123,4159  
R4124

R4133  
R4148,4164-4170,4173  
Other Resistors

**CAPACITORS**

C4018,4101,4103,4106  
C4102,4104,4105,4107  
C4108  
C4109,4111-4113,4116  
C4110,4117

C4114,4118  
C4119,4127,4131,4134  
C4121,4140,4153  
C4122,4129  
C4123,4124,4126,4130

C4132  
C4135,4138,4143-4146  
C4136,4137,4141,4142  
C4139  
C4147

C4150  
C4151  
C4154  
C4155  
C4165

CCSSCH470J50

S-1132B18-U5  
LTC3414EFE  
LTC3412EFE  
NJM2846DL3-05  
S-1170B25UC-OTK

S-1170B15UC-OTA  
NJM2846DL3-33  
NJM2846DL3-18  
PQ090DNA1ZPH  
RN1902

HN1C01FU  
DTC124EUA  
UPA1917TE  
2SC4116  
2SD2114K

1SS355  
1SS357  
1SS355

BTX1042  
BTX1039  
ATH1208  
ATH1194  
VTF1080

RS1/10S0R0J  
RS1/16SS3003F  
RS1/16SS2003F  
RS1/16SS1502F  
RS1/16SS6202F

RS1/16SS1503F  
RS1/10S0R0J  
RS1/16SS###J

CKSRYB105K10  
DCH1201  
CKSRYB105K10  
DCH1201  
CCSSCH101J50

BCG1050  
DCH1201  
CKSSYB104K10  
CCSSCH220J50  
DCH1165

ACH1421  
DCH1201  
BCG1059  
CCSRCH471J50  
CCSRCH102J50

ACH1429  
CKSSYB102K50  
CKSSYF104Z16  
CKSSYB103K16  
DCH1201

| 5                          | 6                | 7                     | 8            |             |
|----------------------------|------------------|-----------------------|--------------|-------------|
| Mark No.                   | Description      | Part No.              | Mark No.     | Description |
| <b>[ATUNER BLOCK]</b>      |                  |                       |              |             |
| <b>SEMICONDUCTORS</b>      |                  |                       |              |             |
| IC4501                     | MSP3417G         | R4645,4647,4648       | RAB4CQ103J   | A           |
| Q4501                      | DTC124EUA        | R4649                 | RS1/10S0R0J  |             |
| Q4503                      | UMD2N            | Other Resistors       | RS1/16SS###J |             |
| Q4504                      | HN1B04FU         | <b>CAPACITORS</b>     |              |             |
| Q4505                      | 2SC4116          | C4603,4612,4646,4650  | DCH1201      |             |
|                            |                  | C4604                 | CKSSYB103K16 |             |
| Q4506                      | 2SA1586          | C4605,4606            | CCSSCH220J50 |             |
| Q4508                      | HN1C01FU         | C4607                 | CKSSYB102K50 |             |
| D4501                      | UDZS24(B)        | C4610,4611,4613,4615  | CKSSYF104Z16 |             |
| D4502,4505                 | UDZS8R2(B)       |                       |              |             |
| <b>MISCELLANEOUS</b>       |                  | C4617,4619,4621,4623  | CKSSYF104Z16 |             |
| L4501-4503                 | BTH1119          | C4625,4627,4629,4631  | CKSSYF104Z16 |             |
| F4501-4503                 | VTF1080          | C4633,4635,4636,4639  | CKSSYF104Z16 |             |
| X4501 CRYSTAL (18.432 MHz) | ASS1196          | C4642,4644,4648,4651  | CKSSYF104Z16 |             |
| ⚠ U4501 FRONT END (EU)     | AXF1172          | C4647                 | CKSSYB104K10 | B           |
|                            |                  | C4652,4655,4657,4659  | CKSSYF104Z16 |             |
| <b>RESISTORS</b>           |                  | <b>[AV SW BLOCK]</b>  |              |             |
| R4517                      | RS1/16S330J      | <b>SEMICONDUCTORS</b> |              |             |
| R4522,4523                 | RS1/16S470J      | IC4701                | R2S11002AFT  |             |
| Other Resistors            | RS1/16SS###J     | IC4702,4706           | NJM12904V    |             |
| <b>CAPACITORS</b>          |                  | IC4703                | PCM1803DB    |             |
| C4501-4503                 | CKSRYF104Z50     | IC4704                | NJU26901E2   |             |
| C4504                      | CKSRYB682K50     | IC4705                | PCM1754DBQ   | C           |
| C4505,4512                 | CCSSCH5R0D50     |                       |              |             |
| C4506                      | CKSSYB103K16     | Q4701,4702,4721       | UMD2N        |             |
| C4507,4508,4513,4514       | CCSSCH100D50     | Q4703-4708,4715       | 2SA1586      |             |
|                            |                  | Q4711,4712,4716,4717  | 2SC4116      |             |
| C4509,4515,4518            | CKSSYB102K50     | Q4718                 | DTA124EUA    |             |
| C4511                      | CCSSCH560J50     | Q4719,4720            | 2SC4116      |             |
| C4520                      | CEHVKW101M6R3    |                       |              |             |
| C4521,4523,4525,4528       | DCH1201          | Q4722,4723            | HN1B04FU     |             |
| C4527,4529,4536,4537       | CKSSYF104Z16     | D4701,4702,4704,4705  | 1SS301       |             |
|                            |                  | D4703                 | 1SS355       |             |
| C4530,4532-4534,4538       | DCH1201          | <b>MISCELLANEOUS</b>  |              |             |
| C4539,4543                 | CKSSYF104Z16     | X4701 CRYSTAL         | ASS1204      | D           |
| C4541                      | DCH1201          |                       |              |             |
| <b>[TEXT UCOM BLOCK]</b>   |                  | <b>RESISTORS</b>      |              |             |
| <b>SEMICONDUCTORS</b>      |                  | R4736,4737            | RS1/16S5600F |             |
| IC4601                     | SDA6000          | R4739,4741            | RS1/16S1800F |             |
| IC4602                     | HY57V641620ETP-H | R4794,4795,4851,4852  | RS1/16S182J  |             |
| IC4603                     | AGC1020          | R4815-4817            | RS1/10S0R0J  |             |
| IC4606                     | TC74LCX125FT     | R4849                 | RS1/16S472J  |             |
| IC4607                     | TC7SH04FUS1      |                       |              |             |
| Q4601,4602                 | UMD2N            | R4853                 | RS1/16S222J  |             |
|                            |                  | R4860,4861,4863,4865  | RS1/16S102J  |             |
| D4601                      | 1SS355           | R4866                 | RAB4CQ470J   |             |
| D4602                      | UDZS12(B)        | Other Resistors       | RS1/16SS###J | E           |
| D4603                      | UDZS3R0(B)       | <b>CAPACITORS</b>     |              |             |
| D4604                      | UDZS3R9(B)       | C4701,4723,4725,4731  | CKSSYF104Z16 |             |
|                            |                  | C4702-4708,4710-4717  | CKSRYB105K10 |             |
| <b>MISCELLANEOUS</b>       |                  | C4718,4719            | CCSRCH181J50 |             |
| X4601 CRYSTAL              | ASS1193          | C4720,4721            | CCSRCH681J50 |             |
|                            |                  | C4722,4724,4726,4733  | DCH1201      |             |
| <b>RESISTORS</b>           |                  |                       |              |             |
| R4601                      | ACN1251          | C4727,4730            | CKSSYB104K10 |             |
| R4602-4606,4608,4625       | BCN1067          | C4728,4729            | CKSRYB221K50 |             |
| R4627,4650                 | RS1/16S0R0J      | C4732,4744,4751,4752  | CKSSYF104Z16 |             |
| R4640                      | RAB4CQ470J       | C4734,4749,4750,4757  | DCH1201      |             |
| R4644,4646                 | RAB4CQ680J       | C4735,4736,4739-4742  | CKSRYB105K10 | F           |

**Mark No. Description****Part No.****Mark No. Description****Part No.**

A

C4737  
C4745,4767,4768  
C4753  
C4754,4755,4759,4760  
C4756,4761,4763,4764

ACG1122  
DCH1165  
ACH1394  
CKSRYB105K10  
CKSSYF104Z16

C4758,4762,4765  
C4766,4772-4774  
C4769-4771  
C4775,4776  
C4777,4779

DCH1201  
CKSSYF104Z16  
DCH1201  
CKSSYB681K50  
CKSSYB152K50

C4778  
C4780-4783  
C4784,4785

CCSSCH221J50  
CKSRYB105K10  
CCSRCH331J50

B

**[RGB SW BLOCK]****SEMICONDUCTORS**

IC4901  
Q4901-4903,4905  
Q4904,4906  
D4901-4903

R2S11001FT  
2SA1586  
HN1B04FU  
UDZS4R7(B)

**RESISTORS**

R4913-4918  
R4919,4926,4930  
R4921,4928,4932  
R4925  
Other Resistors

RS1/16SS3301F  
RS1/16SS5600F  
RS1/16SS75R0F  
RAB4CQ102J  
RS1/16SS###J

**CAPACITORS**

C4901-4903  
C4904  
C4905  
C4906-4910,4912-4915  
C4911,4935

CKSRYB105K10  
CCSRCH331J50  
CCSRCH680J50  
CKSSYB103K16  
CKSRYB474K10

C

C4916,4923,4924,4926  
C4917-4921  
C4925,4927  
C4928-4931

CKSSYF104Z16  
CKSSYB103K16  
DCH1201  
CKSSYF104Z16

**[VDEC BLOCK]****SEMICONDUCTORS**

IC5101  
IC5102

UPD64015AGM-UEU  
EDS1616AGTA-75-E

**MISCELLANEOUS**

F5101 EMI FILTER  
X5102 CRYSTAL

CCG1162  
ASS1191

**RESISTORS**

R5101,5102,5104,5105  
R5106,5107  
R5108-5110  
R5118-5120  
R5133-5135

ACN1246  
BCN1067  
RS1/16S0R0J  
RS1/16SS470J  
RS1/16SS2000F

R5136-5138  
R5140  
R5148  
R5149-5151,5153,5155  
Other Resistors

RS1/16SS220J  
RS1/16S334J  
RAB4CQ220J  
RS1/10S0R0J  
RS1/16SS####D

F

**CAPACITORS**

C5106,5107,5136,5140  
C5108,5109  
C5113,5118,5119  
C5120,5129,5131,5133  
C5127,5128,5130,5132

CKSSYB103K16  
CCSSCH8R0D50  
DCH1201  
CKSSYF104Z16  
CKSSYB104K10

C5134,5135,5137,5139  
C5138,5144,5155-5165  
C5141-5143,5145,5151  
C5150  
C5153,5191

CKSSYB104K10  
CKSSYF104Z16  
CKSSYB104K10  
CKSSYB103K16  
CKSSYB104K10

**[ADC BLOCK]****SEMICONDUCTORS**

IC5301

AD9985KSTZ-110

**RESISTORS**

R5301-5303  
R5305  
R5307,5308,5312,5313  
R5310,5311  
Other Resistors

BCN1067  
RS1/16SS2701F  
RS1/16SS470J  
RS1/10S0R0J  
RS1/16S###J

**CAPACITORS**

C5301  
C5302  
C5303-5305  
C5307,5313  
C5308-5312,5314-5316

CKSSYB823K10  
CKSSYB822K16  
CKSSYB473K16  
CKSSYB104K10  
CKSSYF104Z16

C5318,5319

CKSSYF104Z16

**[HDMI BLOCK]****SEMICONDUCTORS**

IC5401  
IC5402  
IC5403  
Q5401  
Q5407

SI9023CTU  
PCM1754DBQ  
BR24L02FJ-W  
HN1K02FU  
UMD2N

Q5413  
D5401  
D5407

RN1902  
1SS301  
UDZS6R8(B)

**MISCELLANEOUS**

JA5401 HDMI CONNECTOR  
X5401 CRYSTAL

AKP1278  
ASS1192

**RESISTORS**

R5401-5403  
R5413,5429  
R5450  
R5451  
R5452,5455

BCN1071  
RS1/10S0R0J  
RAB4CQ473J  
RAB4CQ100J  
RAB4CQ103J

R5454  
Other Resistors

RAB4CQ470J  
RS1/16SS###J

**CAPACITORS**

C5401,5402  
C5403,5404,5408,5410  
C5405,5407,5473  
C5406  
C5412,5414,5416,5418

CCSSCH120J50  
CKSSYF104Z16  
DCH1201  
CCSSCH101J50  
CKSSYF104Z16



**Mark No. Description****Part No.****Mark No. Description****Part No.**

Q8401  
Q8402  
Q8403,8405  
D8401  
D8402

2SJ461A  
DTC124EUA  
HN1K02FU  
1SS355  
SML-311UT

D8403-8405

1SS301

**MISCELLANEOUS**

X8401 CERAMIC OSCILLATOR  
CN8401 50P CONNECTOR PBF

CSS1616  
AKM1353

**RESISTORS**

R8401,8402  
R8408,8467  
R8454,8455  
R8464  
R8465

ACN1248  
RAB4CQ101J  
RS1/16S0R0J  
RS1/16S4701F  
RS1/16S1801F

R8466  
R8484  
R8485  
Other Resistors

RS1/16S1001F  
RS1/16SS5602F  
RS1/16SS2002F  
RS1/16SS###J

**CAPACITORS**

C8402-8405,8408-8413  
C8414  
C8416,8426  
C8417  
C8418,8443

CCSSCH470J50  
CKSSYB102K50  
CCSSCH120J50  
CKSSYB472K25  
CKSSYB103K16

C8421-8423,8425  
C8424,8460  
C8427-8434,8436-8442  
C8445-8454,8459

CCSSCH470J50  
DCH1165  
CKSSYF104Z16  
CKSSYF104Z16

**TANSHI ASSY****SEMICONDUCTORS**

IC9001  
Q8801-8804  
Q8805-8808,9019,9020  
Q8809-8811,9013  
Q8812,8814,8821,8823

BH3544F  
HN1A01FU  
2SA1586  
UMD2N  
2SC4116

Q8813  
Q8825-8829,8832  
Q9001  
Q9009-9011  
Q9017,9018

HN1C01FU  
2SC4116  
HN1B04FU  
2SC4116  
2SD2114K

D9013  
D9014-9016  
TH9001

1SS301  
UDZS5R1(B)  
TH05-3H103F

**MISCELLANEOUS**

JA8801-8803 RGB CONNECTOR  
JA9001 3P PIN JACK  
JA9005 2P PIN JACK  
CN8802,9003 50P CONNECTOR PBF  
CN9002 5P PLUG

AKP1295  
AKB1332  
AKB1331  
AKM1349  
KM200NA5L

**RESISTORS**

R8801,8803-8805,8807  
R8802,8806,8808  
R8809,8810  
R8812,8821,8870,8877

RS1/10S151J  
RS1/10S121J  
RS1/10S151J  
RS1/16S680J

R8839-8841,8866,8894  
R8885,8893  
R8898,8915-8917,8922  
R9008  
R9037,9038,9040  
R9046-9048

Other Resistors

RS1/16S75R0F  
RS1/16S680J  
RS1/16S75R0F  
RS1/16S4701F  
RS1/16S75R0F  
RS1/16S75R0F

RS1/16SS###J

**CAPACITORS**

C8801,8806,8812,8814  
C8802,8815,8819,9005  
C8803,8813,8818,9001  
C8804,8805,8810,8811  
C8816,8817,9007,9014

DCH1201  
DCH1165  
CKSSYF104Z16  
CCG1205  
DCH1201

C8820,8821,9045,9046  
C8825-8836,8857,8858  
C8837-8839  
C8840-8848,8850,8851  
C8853-8856,9028-9030

CCG1205  
CKSSYB102K50  
ACH1454  
CKSRYB105K10  
CKSRYB105K10

C9002,9039,9040  
C9006  
C9008,9009  
C9013,9044  
C9017

CKSSYB103K16  
DCH1165  
CKSSYB104K10  
CKSSYF104Z16  
CEHVKW470M6R3

C9031,9032  
C9033-9035,9041,9042  
C9038

CKSRYB102K50  
CKSRYB105K10  
CKSSYB473K16

**SIDE ASSY****MISCELLANEOUS**

9203,9204 SCREW TERMINAL

VNE1949

**SEMICONDUCTORS**

Q9201-9205  
D9201-9207  
D9208,9209

2SC4116  
UDZS9R1(B)  
UDZS5R6(B)

**MISCELLANEOUS**

JA9201 PIN JACK 3P  
JA9202 4P MINI DIN SOCKET  
CN9201 MINI JACK

AKB1303  
AKP1238  
AKN1028

**RESISTORS**

R9245,9246  
Other Resistors

ACN1260  
RS1/16SS###J

**CAPACITORS**

C9201,9202  
C9204,9208,9209  
C9213,9214  
C9215,9216

ACH1454  
CKSSYF104Z16  
CKSRYB105K10  
CKSRYB102K50

**PC ASSY****MISCELLANEOUS**

9302 SCREW TERMINAL

VNE1949

| 5                             | 6             | 7                            | 8            |
|-------------------------------|---------------|------------------------------|--------------|
| Mark No. Description          | Part No.      | Mark No. Description         | Part No.     |
| <b><u>SEMICONDUCTORS</u></b>  |               |                              |              |
| IC9301                        | TC74VHC08FTS1 | C3779                        | CKSRYB822K50 |
| IC9302                        | TC7WH123FU    | C3791,3799                   | CEHAT100M50  |
| IC9303                        | BR24C21FJ     | C3792-3795,3806,3807         | CFTLA104J50  |
| Q9301                         | UMD2N         | C3797,3808,3812,3814         | CEHAT1R0M50  |
| D9301,9302                    | 1SS301        | C3800,3801                   | CKSRYB224K16 |
| D9306-9309                    | UDZS5R6(B)    | C3811                        | CFTLA223J50  |
|                               |               | C3813                        | CFTLA104J50  |
|                               |               | C3816,3817                   | ACH1456      |
|                               |               | C3818-3821                   | CCSRCH221J50 |
|                               |               | C3822-3825                   | CKSRYB682K50 |
|                               |               | C3826-3829                   | CKSRYF104Z50 |
|                               |               | C3838,3839                   | CEHAT4R7M50  |
| <b><u>MISCELLANEOUS</u></b>   |               |                              |              |
| CN9301                        | CKS3826       |                              |              |
| CN9303                        | AKP1214       |                              |              |
| <b><u>RESISTORS</u></b>       |               |                              |              |
| R9330                         | RAB4CQ101J    |                              |              |
| Other Resistors               | RS1/16SS###J  |                              |              |
| <b><u>CAPACITORS</u></b>      |               |                              |              |
| C9304,9305                    | CCSRCH220J50  |                              |              |
| C9306                         | CKSRYB105K10  |                              |              |
| C9307,9315,9316               | DCH1201       |                              |              |
| C9308,9313,9314,9317          | CKSSYF104Z16  |                              |              |
| <b>42E AUDIO ASSY</b>         |               | <b>SIDE KEY ASSY</b>         |              |
| <b><u>MISCELLANEOUS</u></b>   |               | <b><u>MISCELLANEOUS</u></b>  |              |
| 3772,3773 SCREW               | PMB30P100FNI  | ⚠ L9501-9504                 | QTL1013      |
| 3774,3775 SCREW               | VBB30P100FNI  | S9501-9507                   | CSG1155      |
| <b><u>SEMICONDUCTORS</u></b>  |               | <b><u>RESISTORS</u></b>      |              |
| IC3751                        | LA4625        | All Resistors                | RS1/16S###J  |
| IC3752                        | PQ120DNA1ZPH  |                              |              |
| IC3753                        | NJW1183GK1    | <b><u>CAPACITORS</u></b>     |              |
| Q3751,3754,3755,3757          | 2SA1586       | C9501                        | CKSRYF104Z16 |
| Q3756,3759                    | 2SC4116       | C9502,9503                   | CCSRCH101J50 |
| Q3758,3760                    | DTC124EUA     |                              |              |
| D3751                         | 1SS355        |                              |              |
| <b><u>MISCELLANEOUS</u></b>   |               | <b>42 &amp; 60 LED ASSY</b>  |              |
| ⚠ F3751,3752                  | ATF1224       | <b><u>SEMICONDUCTORS</u></b> |              |
| KN3751,3752 WRAPPING TERMINAL | VNF1084       | D9601                        | SML-521MDW   |
| CN3751 3P CONNECTOR           | B3P-VH        | D9602                        | TLRV1022     |
|                               |               | D9603                        | SML512BC4T   |
| <b><u>RESISTORS</u></b>       |               | <b><u>MISCELLANEOUS</u></b>  |              |
| R3803                         | RD1/2MMF2R2J  | CN9601 CONNECTOR             | AKP1303      |
| Other Resistors               | RS1/16S###J   | <b><u>RESISTORS</u></b>      |              |
|                               |               | All Resistors                | RS1/16S###J  |
| <b><u>CAPACITORS</u></b>      |               | <b><u>CAPACITORS</u></b>     |              |
| C3752,3753                    | CEHAT2R2M50   | C9606,9610,9614              | CKSSYF103Z50 |
| C3754,3805                    | CFTLA103J50   | C9611                        | CKSRYF103Z50 |
| C3755                         | CEHAT472M25   |                              |              |
| C3757                         | CEHAT471M25   |                              |              |
| C3758,3760,3796               | CKSRYB103K50  |                              |              |
| C3759                         | CEHAT331M16   |                              |              |
| C3761,3764,3786,3798          | CEHAT101M16   |                              |              |
| C3762                         | CEHAT220M50   |                              |              |
| C3763                         | CEHATR47M50   |                              |              |
| C3766,3780,3783-3785          | CEHAT1R0M50   |                              |              |
| C3767,3770,3781,3782          | CFTLA104J50   |                              |              |
| C3769,3815                    | CKSRYB222K50  |                              |              |
| C3771-3774,3787,3789          | CKSRYB224K16  |                              |              |
| C3775,3777,3788,3790          | CEHAT100M50   |                              |              |
| C3778                         | CFTLA334J50   |                              |              |
|                               |               | <b>LED IR ASSY</b>           |              |
|                               |               | <b><u>SEMICONDUCTORS</u></b> |              |
|                               |               | IC9702                       | SBX3050-01   |
|                               |               | Q9701                        | 2SA1586      |
|                               |               | D9701                        | 1SS302       |
|                               |               | D9703                        | SML-521MDW   |
|                               |               | <b><u>MISCELLANEOUS</u></b>  |              |
|                               |               | CN9701 CONNECTOR             | AKP1303      |
|                               |               | <b><u>RESISTORS</u></b>      |              |
|                               |               | R9701,9702,9707,9712         | RS1/16S0R0J  |
|                               |               | R9713                        | RS1/16S121J  |
|                               |               | R9714                        | RS1/16S331J  |
|                               |               | Other Resistors              | RS1/16SS###J |

**Mark No.**      **Description**

**Part No.**

**Mark No.**      **Description**

**Part No.**

### **CAPACITORS**

A

C9701  
C9702  
C9703 (10/6.3V)  
C9704  
C9705  
All Resistors

CKSSYB102K50  
CKSSYF104Z16  
ACG7046  
CKSSYF103Z50  
CKSRYF103Z50  
RS1/16S###J

C1141,1142,1144,1145  
C1161-1164,1166  
C1167,1168

CKSRYB104K16  
ACE1168  
ACG1129

### **[42X SUS BLOCK]**

### **SEMICONDUCTORS**

IC1201  
IC1202  
IC1251  
IC1252  
IC1271

MM1565AF  
AXF1143  
TND301S  
PS9117  
TND307TD

Q1251  
Q1272  
D1201  
D1251  
D1252

2SC2412K  
2SK3325  
1SS355  
UDZS5R6(B)  
CRH01

D1281  
D1282

1SS302  
UDZS16(B)

### **MISCELLANEOUS**

L1201,1205,1231  
L1204,1211  
F1201  
KN1201-1206,1208-1211  
CN1201

LFEA100J  
ATH1186  
CTF1449  
ANK-142  
B8B-EH

CN1202

B6B-EH

### **RESISTORS**

R1204  
R1213  
R1276,1277  
Other Resistors

ACN1166  
ACN1168  
RS3LMF331J  
RS1/16S###J

### **CAPACITORS**

C1204,1207,1223,1251  
C1206  
C1208  
C1211,1225-1227,1297  
C1212,1213

CKSRYF104Z50  
CEHAT101M25  
CEHAT470M16  
ACG1129  
ACH1424

C1214-1217  
C1220  
C1221  
C1222,1272  
C1231

ACE1178  
CKSYB105K25  
CKSRYB105K6R3  
CEHAT470M25  
CEHAT101M10

C1253,1273  
C1283  
C1298

CKSRYF104Z50  
CEHAT2R2M2E  
ACG1129

### **[42X D-D CON BLOCK]**

### **SEMICONDUCTORS**

IC1321  
IC1326  
Q1301,1323  
Q1302  
Q1321,1325,1351

PS2701A-1(L)  
TA76431FR  
2SD1898  
2SC4081  
HN1C01FU

Q1324  
D1301,1302,1326,1327  
D1303,1324  
D1304,1307,1325,1328

2SA1037K  
CRH01  
1SS301  
1SS355

## **42 X DRIVE ASSY**

### **MISCELLANEOUS**

B

1001  
1001  
1002  
1002

BMZ30P080FTC  
ANH1637  
AEH1092  
ANH1639

### **[42X LOGIC BLOCK]**

### **SEMICONDUCTORS**

IC1001  
IC1002

TC74ACT541FT  
TC74VHC00FTS1

### **MISCELLANEOUS**

C

CN1001

VKN1310

### **RESISTORS**

R1001,1003  
R1008,1009,1020  
Other Resistors

RAB4C470J  
RAB4C472J  
RS1/16S###J

### **CAPACITORS**

C1001,1002  
C1003  
C1004

CKSRYB104K16  
CEHAT470M16  
CCSRCH680J50

## **D [42X RESONANCE BLOCK]**

### **SEMICONDUCTORS**

IC1101  
IC1141  
Q1141  
D1101-1105

AXF1145  
BA10393F  
2SC4116  
D1FL40

### **MISCELLANEOUS**

L1101,1102  
L1103-1106

ATH1155  
ATH1193

## **E [42X RESONANCE BLOCK]**

### **RESISTORS**

R1101  
R1106  
R1121  
R1122,1123  
R1142,1146

ACN1168  
ACN1252  
RS2MMF100J  
RS1/10S104J  
RS1/10S1003F

R1148,1150  
R1151,1155  
Other Resistors

RS1/16S5601F  
RS1/16S6801F  
RS1/16S###J

### **CAPACITORS**

C1101,1112,1113  
C1102,1146  
C1103  
C1105  
C1121

ACG1112  
CKSRYB105K6R3  
CKSYB105K25  
CCG1186  
ACG1126

F

|                                                                         |                    |                                                                       |  |                                                                                                         |                    |                                                                 |   |
|-------------------------------------------------------------------------|--------------------|-----------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--------------------|-----------------------------------------------------------------|---|
| 5                                                                       |                    | 6                                                                     |  | 7                                                                                                       |                    | 8                                                               |   |
| <b>Mark No.</b>                                                         | <b>Description</b> | <b>Part No.</b>                                                       |  | <b>Mark No.</b>                                                                                         | <b>Description</b> | <b>Part No.</b>                                                 |   |
| D1306,1323,1331<br>D1321<br>D1329,1330                                  |                    | UDZS5R1(B)<br>D1FK60<br>UDZS4R7(B)                                    |  |                                                                                                         |                    |                                                                 |   |
| <b>MISCELLANEOUS</b>                                                    |                    |                                                                       |  | <b>[42 Y LOGIC BLOCK]</b>                                                                               |                    |                                                                 |   |
| VR1321<br>T1301<br>T1321                                                |                    | CCP1392<br>ATK1159<br>ATK1160                                         |  | <b>SEMICONDUCTORS</b>                                                                                   |                    |                                                                 | A |
|                                                                         |                    |                                                                       |  | IC2001,2004<br>IC2002<br>IC2003,2005                                                                    |                    | TC74ACT541FT<br>TC74ACT540FT<br>TC74VHC08FTS1                   |   |
| <b>RESISTORS</b>                                                        |                    |                                                                       |  | <b>MISCELLANEOUS</b>                                                                                    |                    |                                                                 |   |
| R1321,1322,1326,1339<br>R1337<br>Other Resistors                        |                    | RS1/10S224J<br>RAB4C472J<br>RS1/16S###J                               |  | CN2001 40P CONNECTOR                                                                                    |                    | AKM1348                                                         |   |
| <b>CAPACITORS</b>                                                       |                    |                                                                       |  | <b>RESISTORS</b>                                                                                        |                    |                                                                 |   |
| C1301,1303,1323<br>C1302,1321<br>C1304,1306<br>C1307,1324,1327<br>C1325 |                    | CKSRYB103K50<br>CEHAT101M25<br>CKSRYB104K16<br>CKSYB105K25<br>ACH1428 |  | R2001,2002,2017,2021<br>R2003,2006<br>R2004,2005,2019,2020<br>R2038,2039<br>Other Resistors             |                    | RAB4C470J<br>RAB4C101J<br>RAB4C472J<br>RAB4C472J<br>RS1/16S###J | B |
| C1326                                                                   |                    | CEHAT100M50                                                           |  | <b>CAPACITORS</b>                                                                                       |                    |                                                                 |   |
|                                                                         |                    |                                                                       |  | C2001,2002,2004-2006<br>C2003<br>C2008                                                                  |                    | CKSSYB104K10<br>CEHAT470M16<br>CCSRCH680J50                     |   |
| <b>SUS CLAMP 1 ASSY</b>                                                 |                    |                                                                       |  | <b>[42Y RESONANCE BLOCK]</b>                                                                            |                    |                                                                 |   |
| <b>SEMICONDUCTORS</b>                                                   |                    |                                                                       |  | <b>SEMICONDUCTORS</b>                                                                                   |                    |                                                                 |   |
| D1631                                                                   |                    | DF20L60U                                                              |  | IC2101<br>IC2141<br>Q2141<br>D2101-2105                                                                 |                    | AXF1145<br>BA10393F<br>2SC4081<br>D1FL40                        | C |
| <b>MISCELLANEOUS</b>                                                    |                    |                                                                       |  | <b>MISCELLANEOUS</b>                                                                                    |                    |                                                                 |   |
| KN1631<br>KN1632<br>CN1631                                              |                    | VNF1084<br>ANK-142<br>B3B-EH                                          |  | L2101,2102<br>L2103-2106                                                                                |                    | ATH1155<br>ATH1193                                              |   |
| <b>CAPACITORS</b>                                                       |                    |                                                                       |  | <b>RESISTORS</b>                                                                                        |                    |                                                                 |   |
| C1632                                                                   |                    | ACE1179                                                               |  | R2101<br>R2102<br>R2103,2107<br>R2108<br>R2142,2143                                                     |                    | ACN1174<br>RS2MMF100J<br>RS1/10S104J<br>ACN1241<br>RS1/10S1003F | D |
| <b>SUS CLAMP 2 ASSY</b>                                                 |                    |                                                                       |  | R2146,2149<br>R2147,2151<br>Other Resistors                                                             |                    | RS1/16S5601F<br>RS1/16S6801F<br>RS1/16S###J                     |   |
| <b>SEMICONDUCTORS</b>                                                   |                    |                                                                       |  | <b>CAPACITORS</b>                                                                                       |                    |                                                                 |   |
| D1641                                                                   |                    | DF20L60U                                                              |  | C2101,2145<br>C2102<br>C2103,2107,2108 (0.22/250V)<br>C2104,2106 (470p/630V)<br>C2109-2112 (3300p/630V) |                    | CKSRYB105K6R3<br>CKSYB105K25<br>ACG1112<br>ACG1126<br>ACG1129   | E |
| <b>MISCELLANEOUS</b>                                                    |                    |                                                                       |  | C2131-2134,2136<br>C2141,2143,2144                                                                      |                    | ACE1168<br>CKSSYB104K10                                         |   |
| KN<br>KN<br>CN1641                                                      |                    | 1641VNF1084<br>1642ANK-142<br>B3B-EH                                  |  | <b>[42Y SUS BLOCK]</b>                                                                                  |                    |                                                                 |   |
| <b>CAPACITORS</b>                                                       |                    |                                                                       |  | <b>SEMICONDUCTORS</b>                                                                                   |                    |                                                                 |   |
| C1642                                                                   |                    | ACE1179                                                               |  | IC2203,2221<br>IC2231,2251<br>IC2250<br>IC2252,2253<br>IC2350                                           |                    | TND307TD<br>TND301S<br>PS9117<br>AXF1144<br>MM1565AF            |   |
| <b>42 Y DRIVE ASSY</b>                                                  |                    |                                                                       |  |                                                                                                         |                    |                                                                 |   |
| <b>MISCELLANEOUS</b>                                                    |                    |                                                                       |  |                                                                                                         |                    |                                                                 |   |
| 2001<br>2001<br>2001<br>2001<br>2002                                    |                    | AEH1092<br>ABA1349<br>ANG2790<br>ANH1638<br>BMZ30P080FTC              |  |                                                                                                         |                    |                                                                 |   |
| 2002                                                                    |                    | ANH1639                                                               |  |                                                                                                         |                    |                                                                 |   |

**Mark No. Description****Part No.****Mark No. Description****Part No.**

Q2202  
Q2221  
Q2250  
Q2280,2281  
Q2290

2SA2142  
2SK3325  
2SC4081  
2SK3399  
2SK3050

D2202,2204,2205,2234  
D2203,2212,2351  
D2211  
D2213  
D2232,2271

CRH01  
1SS355  
D1FK60  
1SS302  
UDZS16(B)

D2233  
D2250  
D2251,2252,2272

1SS301  
UDZS5R6(B)  
CRH01

**MISCELLANEOUS**

L2401-2403  
F2401-2404  
CN2401,2402 15P CONNECTOR

LFEA100J  
ATX1059  
AKM1200

**RESISTORS**

R2407,2421  
Other Resistors

RAB4C220J  
RS1/16S###J

**CAPACITORS**

C2401,2407,2414  
C2402,2403,2405  
C2404,2411  
C2408-2410,2412

CEHAT101M10  
CKSSYB104K10  
ACH1413  
CKSSYB104K10

**MISCELLANEOUS**

L2350,2351,2354  
L2353  
F2301-2320  
F2352  
KN2350,2352,2354,2356

LFEA100J  
ATH1186  
ATX1062  
CTF1449  
ANK-142

KN2357,2359-2363 GROUND PLATE  
CN2350 9P CONNECTOR  
CN2351,2352 4P CONNECTOR

ANK-142  
B9B-EH  
B4B-PH

**[42Y VH D-D CON BLOCK]****SEMICONDUCTORS**

IC2502  
IC2503  
IC2531  
IC2534,2535  
Q2511

MIP2E3DMC  
PS2701A-1(L)  
BA10358F  
TA76431FR  
HN1C01FU

Q2531  
Q2532  
Q2533  
D2522,2524  
D2523,2532

2SC3425  
2SD2568  
2SC2412K  
CRH01  
D1FK60

D2530,2536  
D2531  
D2533  
D2534

UDZS4R7(B)  
UDZS12(B)  
UDZS33(B)  
1SS355

**MISCELLANEOUS**

L2501  
VR2503  
VR2531  
T2503

LFEA101J  
CCP1390  
CCP1392  
ATK1158

**RESISTORS**

R2533,2556  
R2534,2535,2541  
R2542,2545  
R2548  
R2549,2557

RS1/10S104J  
RS1/10S2203F  
RS1/16S5601F  
RS1/16S1003F  
RS1/16S4702F

R2550  
R2553  
R2558  
Other Resistors

RS1/16S1802F  
RAB4C472J  
RS1/10S0R0J  
RS1/16S###J

**CAPACITORS**

C2513  
C2514,2525,2534  
C2515  
C2516  
C2520

ACH1428  
CKSRYB104K16  
CEHAT101M25  
ACH1360  
CEHAT101M16

C2521,2533,2535  
C2528  
C2531  
C2532  
C2536

CKSRYB104K25  
CEHAT221M16  
ACE1177  
ACH1425  
CEHAT470M25

**[42Y SCAN BLOCK]****SEMICONDUCTORS**

IC2401  
IC2402,2407  
IC2403,2405,2406,2408  
D2402

PS9851-2(P)  
TC74AC540FT  
PS9117  
CRH01

| 5                    |             | 6             |  | 7                    |             | 8               |  |
|----------------------|-------------|---------------|--|----------------------|-------------|-----------------|--|
| Mark No.             | Description | Part No.      |  | Mark No.             | Description | Part No.        |  |
| [42Y D-D CON BLOCK]  |             |               |  | RESISTORS            |             |                 |  |
| SEMICONDUCTORS       |             |               |  | R3007,3010-3016      |             | RAB4C470J       |  |
| IC2601,2603,2606     |             | PS2701A-1(L)  |  | R3020-3022           |             | RAB4C103J       |  |
| IC2602               |             | BA10358F      |  | Other Resistors      |             | RS1/16SS###J    |  |
| IC2605,2614          |             | TA76431FR     |  | [MODULE UCOM BLOCK]  |             |                 |  |
| Q2601,2609           |             | 2SA1576A      |  | SEMICONDUCTORS       |             |                 |  |
| Q2602,2613,2641      |             | HN1C01FU      |  | IC3152,3153          |             | SN74AHC541PW    |  |
| Q2603,2604,2611      |             | DTC143EUA     |  | IC3155               |             | SN74AHC08PW     |  |
| Q2605,2606           |             | 2SD1898       |  | IC3156               |             | BR24L04FJ-W     |  |
| Q2607                |             | 2SC2713       |  | IC3157               |             | M62334FP        |  |
| Q2608                |             | 2SA2005       |  | IC3159               |             | TC7W126FU       |  |
| Q2610                |             | 2SA1163       |  | IC3160,3161          |             | TC74VHC123AFTS1 |  |
| Q2612                |             | 2SC4081       |  | Q3151                |             | 2SJ461A         |  |
| D2601,2603,2609,2618 |             | CRH01         |  | D3151,3152,3154,3155 |             | DAN202U         |  |
| D2602,2613-2615      |             | 1SS355        |  | D3158,3159,3161-3163 |             | 1SS355          |  |
| D2604,2612           |             | 1SS301        |  | MISCELLANEOUS        |             |                 |  |
| D2605                |             | UDZS5R1(B)    |  | X3151                |             | CSS1616         |  |
| D2607,2608           |             | UDZS4R7(B)    |  | CN3151               |             | AKM1276         |  |
| D2610                |             | D1FL40        |  | CN3152               |             | CKS4828         |  |
| D2611                |             | 1SS226        |  | RESISTORS            |             |                 |  |
| D2616                |             | UDZS5R6(B)    |  | R3155,3160,3170,3176 |             | RAB4C101J       |  |
| D2617                |             | UDZS15(B)     |  | R3174                |             | RAB4C103J       |  |
| MISCELLANEOUS        |             |               |  | Other Resistors      |             | RS1/16SS###J    |  |
| VR2601               |             | CCP1390       |  | CAPACITORS           |             |                 |  |
| T2601                |             | ATK1161       |  | C3151                |             | CEHVKW470M6R3   |  |
| T2602                |             | ATK1156       |  | C3152,3153,3155-3158 |             | CKSSYB104K10    |  |
| RESISTORS            |             |               |  | C3159,3171,3172,3182 |             | CKSRYB105K6R3   |  |
| R2608,2612,2630,2632 |             | RS1/16S4701F  |  | C3162,3163,3165,3166 |             | CKSSYB104K10    |  |
| R2613                |             | RAB4C472J     |  | C3164                |             | CCSSCH101J50    |  |
| R2618                |             | RS1/16S4702F  |  | C3167                |             | CKSSYB103K16    |  |
| R2625,2626           |             | RS1/16S1501F  |  | C3168,3170,3181      |             | CKSSYB104K10    |  |
| R2627                |             | RS3LMF151J    |  | [PANEL FLASH BLOCK]  |             |                 |  |
| R2629                |             | RS1/16S1002F  |  | SEMICONDUCTORS       |             |                 |  |
| R2635                |             | RS1/16S4701F  |  | IC3302,3305          |             | PST3628UR       |  |
| R2636                |             | RS1/16S5601F  |  | IC3303               |             | SN74AHC08PW     |  |
| R2641,2642           |             | RS1/10S224J   |  | IC3304               |             | PST3610UR       |  |
| R2652                |             | RS1/16S6801F  |  | Q3301                |             | RN1901          |  |
| Other Resistors      |             | RS1/16S###J   |  | Q3302                |             | HN1C01FU        |  |
| CAPACITORS           |             |               |  | MISCELLANEOUS        |             |                 |  |
| C2601,2604,2609      |             | CKSRYB104K16  |  | X3302                |             | ASS1188         |  |
| C2602,2615           |             | CKSRYB105K6R3 |  | CN3301               |             | CKS4835         |  |
| C2603                |             | CKSRYF104Z50  |  | RESISTORS            |             |                 |  |
| C2605,2612,2614      |             | CKSRYB103K50  |  | R3307,3308           |             | RAB4C101J       |  |
| C2606                |             | CEHAT221M6R3  |  | Other Resistors      |             | RS1/16SS###J    |  |
| C2607                |             | CKSRYB102K50  |  | CAPACITORS           |             |                 |  |
| C2608,2610           |             | CEHAT101M25   |  | C3301-3303,3306,3308 |             | CKSSYB104K10    |  |
| C2611                |             | CKSSYB104K10  |  | C3304,3307,3309      |             | CKSSYB472K16    |  |
| C2613                |             | CEHAT221M25   |  | C3305,3310           |             | CKSSYB102K50    |  |
| All Resistors        |             | RS1/16S###J   |  | C3311                |             | CCSRCH470J50    |  |
| 42 DIGITAL ASSY      |             |               |  | C3315,3316           |             | CKSSYB104K10    |  |
| [DIGITAL IF BLOCK]   |             |               |  | C3317                |             | CCSRCH471J50    |  |
| MISCELLANEOUS        |             |               |  | RESISTORS            |             |                 |  |
| F3001                |             | CCG1162       |  | R3307,3308           |             | RAB4C101J       |  |
| CN3001               |             | AKM1353       |  | Other Resistors      |             | RS1/16SS###J    |  |
| CN3002               |             | AKM1235       |  | CAPACITORS           |             |                 |  |
|                      |             |               |  | C3301-3303,3306,3308 |             | CKSSYB104K10    |  |
|                      |             |               |  | C3304,3307,3309      |             | CKSSYB472K16    |  |
|                      |             |               |  | C3305,3310           |             | CKSSYB102K50    |  |
|                      |             |               |  | C3311                |             | CCSRCH470J50    |  |
|                      |             |               |  | C3315,3316           |             | CKSSYB104K10    |  |
|                      |             |               |  | C3317                |             | CCSRCH471J50    |  |

**Mark No.**      **Description**

**Part No.**

**Mark No.**      **Description**

**Part No.**

**[SQ ASIC BLOCK]**

**A    SEMICONDUCTORS**

IC3401

PEG239A

**MISCELLANEOUS**

L3401-3403  
F3401,3402

QTL1013  
CCG1162

**RESISTORS**

R3402,3412  
R3405-3407,3409,3410  
R3416  
R3425  
Other Resistors

RAB4C101J  
RAB4C220J  
RAB4C220J  
RS1/16SS5601F  
RS1/16SS###J

**CAPACITORS**

C3401,3402,3419,3425  
C3403-3413,3417,3418  
C3420-3424,3426-3432  
C3445-3448

CEHVKW101M6R3  
CKSSYB104K10  
CKSSYB104K10  
CKSSYB104K10

**[ADDRESS CN BLOCK]**

**SEMICONDUCTORS**

Q3501,3502  
D3501,3502

RN1901  
DAN202U

**MISCELLANEOUS**

CN3501-3504,3506  
CN3505

AKM1348  
VKN1310

**RESISTORS**

R3519,3520  
R3521,3522,3525  
R3524  
Other Resistors

RAB4C472J  
RAB4C101J  
RAB4C222J  
RS1/16SS###J

D

**[DIGITAL DD CON BLOCK]**

**SEMICONDUCTORS**

IC3601

BA80BC0WFP

**MISCELLANEOUS**

U3601

AXY1137

**RESISTORS**

R3611  
Other Resistors

RAB4C101J  
RS1/16SS###J

E

**CAPACITORS**

C3609  
C3611  
C3612  
C3613

CKSSYB104K10  
CKSQYB105K16  
ACH1394  
CKSSYB103K16

**SENSOR ASSY**

**SEMICONDUCTORS**

IC3651  
IC3652  
Q3651

MM1522XU  
BR24L02FJ-W  
HN1B04FU

**MISCELLANEOUS**

CN3651 5P CONNECTOR

AKM1276

**RESISTORS**

All Resistors

RS1/16SS###J

**CAPACITORS**

C3651,3653  
C3652,3654  
C3656,3657

CKSRYB105K6R3  
CKSSYB103K16  
CKSSYB104K10

**42 ADDRESS ASSY**

**[42 ADR LOGIC]**

**SEMICONDUCTORS**

IC1501

PEE002A

**MISCELLANEOUS**

L1504  
CN1501  
CN1502

QTL1013  
AKM1348  
AKM1290

**RESISTORS**

R1505-1509  
R1530,1531  
Other Resistors

RS1/16SS1000F  
RS1/16S0R0J  
RS1/16SS###J

**CAPACITORS**

C1501  
C1502  
C1503-1507,1552-1555  
C1509,1510  
C1557

CKSRYB105K6R3  
ACH1357  
CKSSYF104Z16  
CKSSYB102K50  
CCSSCH470J50

**[42 ADR RESONANCE]**

**SEMICONDUCTORS**

IC1601,1602  
Q1601,1610  
Q1602,1609  
Q1606,1608,1611  
Q1612

TND307TD  
HAT3021R  
HAT1110R  
QSZ2  
2SA1163

Q1613,1614  
D1601,1606,1618,1619  
D1602,1603,1620,1621  
D1604,1605,1622,1623  
D1612

RN1901  
UDZS15(B)  
EC10UA20  
CRH01  
1SS302

D1625,1628

1SS355

**MISCELLANEOUS**

L1601,1604

ATH1135

**RESISTORS**

R1606,1611,1613  
R1607,1619,1621,1636  
R1637  
Other Resistors

RS1/16SS330J  
RS1/16SS0R0J  
RS1/16SS0R0J  
RS1/16S###J

|                   |                    |                 |                 |                      |                 |   |   |
|-------------------|--------------------|-----------------|-----------------|----------------------|-----------------|---|---|
| 5                 |                    | 6               |                 | 7                    |                 | 8 |   |
| <u>Mark No.</u>   | <u>Description</u> | <u>Part No.</u> | <u>Mark No.</u> | <u>Description</u>   | <u>Part No.</u> |   |   |
| <u>CAPACITORS</u> |                    |                 |                 | C2825-2827,2835-2837 | CCSRCH390J50    |   |   |
| C1601,1614        |                    | ACG1124         |                 | C2828,2829,2838,2839 | CCSRCH331J50    |   |   |
| C1602-1605        |                    | ACH1405         |                 | C2841,2851           | ACG1125         |   |   |
| C1609             |                    | ACG1098         |                 | C2843,2853,2861      | CKSRYB105K6R3   |   | A |
| C1613             |                    | CKSRYB104K25    |                 | C2845-2847,2855-2857 | CCSRCH390J50    |   |   |
| C1619             |                    | CKSYB105K16     |                 |                      |                 |   |   |
|                   |                    |                 |                 | C2848,2849,2858,2859 | CCSRCH331J50    |   |   |
|                   |                    |                 |                 | C2850,2860           | CCSRCH181J50    |   |   |

## 42 SCAN A ASSY

### **SEMICONDUCTORS**

|             |                |
|-------------|----------------|
| IC2701-2706 | SN755870KPZT-P |
| IC2707      | TC7SH08FUS1    |
| D2701-2707  | 1SS355         |

### **MISCELLANEOUS**

|        |         |
|--------|---------|
| CN2701 | AKP1261 |
| CN2702 | AKM1274 |

### **RESISTORS**

|                      |             |
|----------------------|-------------|
| R2705,2710,2713,2716 | RAB4C221J   |
| R2719,2722           | RAB4C221J   |
| Other Resistors      | RS1/16S###J |

### **CAPACITORS**

|                      |               |
|----------------------|---------------|
| C2701,2711,2721,2731 | ACG1125       |
| C2703,2713,2723,2733 | CKSRYB105K6R3 |
| C2705-2707,2715-2717 | CCSRCH390J50  |
| C2708,2709,2718,2719 | CCSRCH331J50  |
| C2710,2720,2730,2740 | CCSRCH181J50  |
| C2725-2727,2735-2737 | CCSRCH390J50  |
| C2728,2729,2738,2739 | CCSRCH331J50  |
| C2741,2751           | ACG1125       |
| C2743,2753           | CKSRYB105K6R3 |
| C2745-2747,2755-2757 | CCSRCH390J50  |
| C2748,2749,2758,2759 | CCSRCH331J50  |
| C2750,2760           | CCSRCH181J50  |

## 42 SCAN B ASSY

### **SEMICONDUCTORS**

|             |                |
|-------------|----------------|
| IC2801-2806 | SN755870KPZT-P |
| IC2807      | TC7SH08FUS1    |
| D2801-2807  | 1SS355         |

### **MISCELLANEOUS**

|        |         |
|--------|---------|
| CN2801 | AKP1261 |
| CN2802 | AKM1274 |

### **RESISTORS**

|                      |             |
|----------------------|-------------|
| R2803,2808,2811,2814 | RAB4C221J   |
| R2817,2820           | RAB4C221J   |
| Other Resistors      | RS1/16S###J |

### **CAPACITORS**

|                      |               |
|----------------------|---------------|
| C2801,2811,2821,2831 | ACG1125       |
| C2803,2813,2823,2833 | CKSRYB105K6R3 |
| C2805-2807,2815-2817 | CCSRCH390J50  |
| C2808,2809,2818,2819 | CCSRCH331J50  |
| C2810,2820,2830,2840 | CCSRCH181J50  |

## POWER SUPPLY UNIT

POWER SUPPLY Unit has no service part.

# 4. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

## 4.1 OVERALL WIRING DIAGRAM (1/2)

A

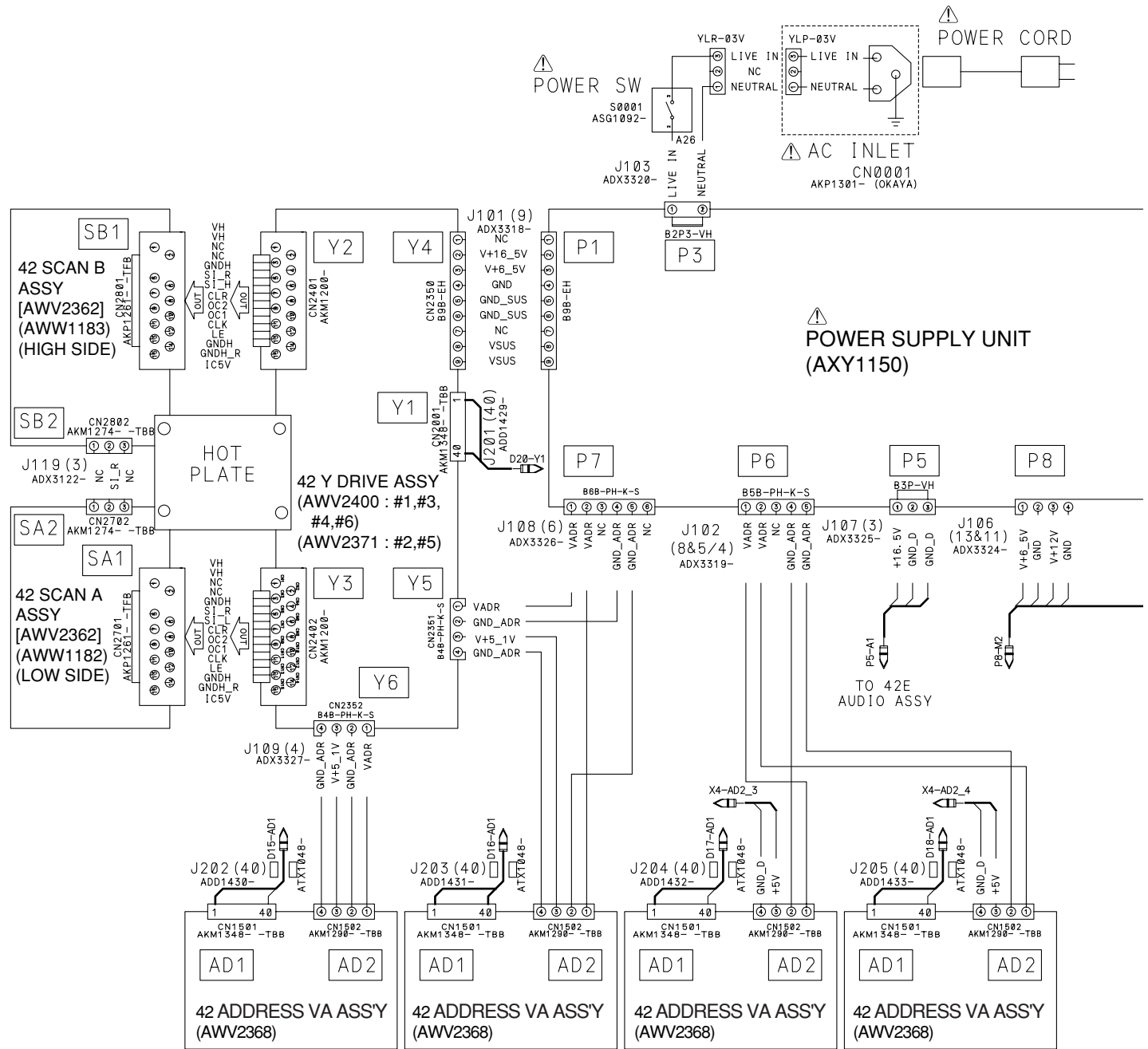
B

C

D

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F



### CONNECTOR PIN ASSIGN

|                            |                  |                             |                 |
|----------------------------|------------------|-----------------------------|-----------------|
| CN3001 [D11] → CN4001 [M1] |                  | CN1501 [AD1] → CN3501 [D15] |                 |
| 1. GND                     | 26. VIDEO_G6     | CN1501 [AD1] → CN3502 [D16] |                 |
| 2. V+3_3V_UCOM             | 27. VIDEO_G5     | CN1501 [AD1] → CN3503 [D17] |                 |
| 3. INP_MUTE                | 28. VIDEO_G4     | CN1501 [AD1] → CN3504 [D18] |                 |
| 4. THEATER                 | 29. VIDEO_G3     |                             |                 |
| 5. VD                      | 30. VIDEO_G2     | CN3506 [D20] → CN2001 [Y1]  |                 |
| 6. HD                      | 31. VIDEO_G1     | 1-40. GND_D                 | 21-20. CN       |
| 7. DE                      | 32. VIDEO_G0     | 2-39. D1V0                  | 22-19. NC       |
| 8. GND                     | 33. GND          | 3-38. D1V1                  | 23-18. LVDS_GND |
| 9. CLK                     | 34. VIDEO_B9     | 4-37. GND_D                 | 24-17. NC       |
| 10. GND                    | 35. VIDEO_B8     | 5-36. V+3.3V                | 25-16. BP       |
| 11. GND                    | 36. VIDEO_B7     | 6-35. V+3.3V                | 26-15. BN       |
| 12. VIDEO_R9               | 37. VIDEO_B6     | 7-34. GND_D                 | 27-14. NC       |
| 13. VIDEO_R8               | 38. VIDEO_B5     | 8-33. LVDS_GND              | 28-13. LVDS_GND |
| 14. VIDEO_R7               | 39. VIDEO_B4     | 9-32. NC                    | 29-12. NC       |
| 15. VIDEO_R6               | 40. VIDEO_B3     | 10-31. DP                   | 30-11. AP       |
| 16. VIDEO_R5               | 41. VIDEO_B2     | 11-30. DN                   | 31-10. AN       |
| 17. VIDEO_R4               | 42. VIDEO_B1     | 12-29. CN                   | 32-9. NC        |
| 18. VIDEO_R3               | 43. VIDEO_B0     | 13-28. LVDS_GND             | 33-8. LVDS_GND  |
| 19. VIDEO_R2               | 44. GND          | 14-27. NC                   | 34-7. GND_D     |
| 20. VIDEO_R1               | 45. RESERVE (NC) | 15-26. CLKP                 | 35-6. V+8V      |
| 21. VIDEO_R0               | 46. AC_OFF (NC)  | 16-25. CLKN                 | 36-5. V+8V      |
| 22. GND                    | 47. TXD_MD       | 17-24. CN                   | 37-4. GND_D     |
| 23. VIDEO_G9               | 48. RXD_MD       | 18-23. LVDS_GND             | 38-3. PS12E     |
| 24. VIDEO_G8               | 49. REQ_MD       | 19-22. NC                   | 39-2. ADDR_PD   |
| 25. VIDEO_G7               | 50. MODE         | 20-21. CP                   | 40-1. NC        |

|                            |  |
|----------------------------|--|
| CN3505 [D19] → CN1001 [X1] |  |
| 1-18. PSW2                 |  |
| 2-17. XSUS_PD              |  |
| 3-16. XDD_PD               |  |
| 4-15. XDRV_PD              |  |
| 5-14. GND_D                |  |
| 6-13. SUS_MUTE             |  |
| 7-12. XSUS_MSK             |  |
| 8-11. GND_D                |  |
| 9-10. XNR-D                |  |
| 10-9. GND_D                |  |
| 11-8. XSUS-G               |  |
| 12-7. GND_D                |  |
| 13-6. XSUS-D               |  |
| 14-5. GND_D                |  |
| 15-4. XSUS-U               |  |
| 16-3. GND_D                |  |
| 17-2. XSUS-B               |  |
| 18-1. XCN_PD               |  |

| POWER CORD Table |                         |
|------------------|-------------------------|
| 427XD/427XA      | ADG1214-(other)         |
| 4278XD/4278XA    | ADG1223-(for UK)        |
| 427XDA           | ADG1245-                |
| 427XC            | ADG1209-                |
| 427XG            | -(other)                |
|                  | ADG1233-(for Argentina) |

# JUMPER CONNECTOR



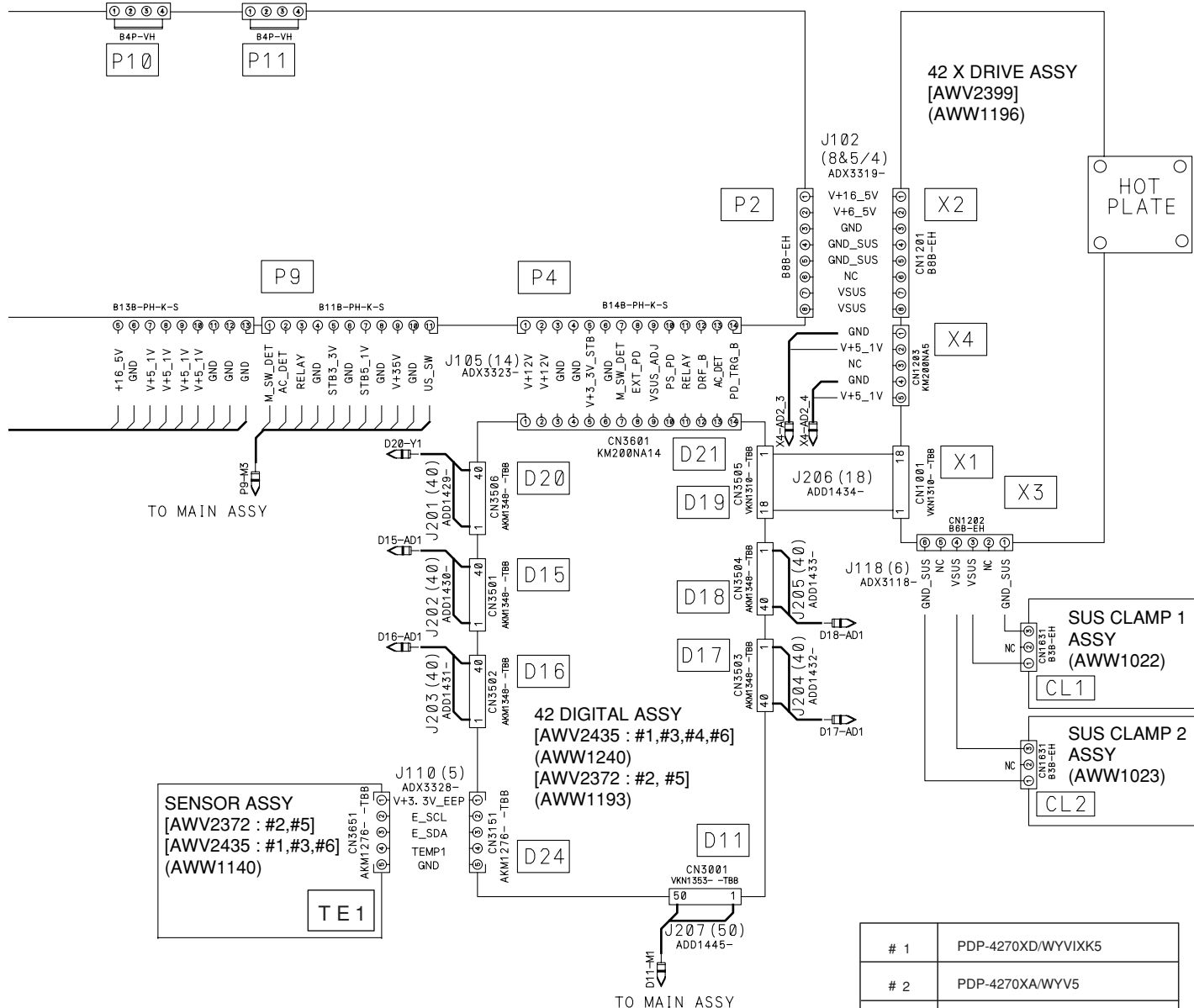
KU+  
NC  
NC  
KU-

84P-VH  
P10

SW+  
NC  
NC  
SW-

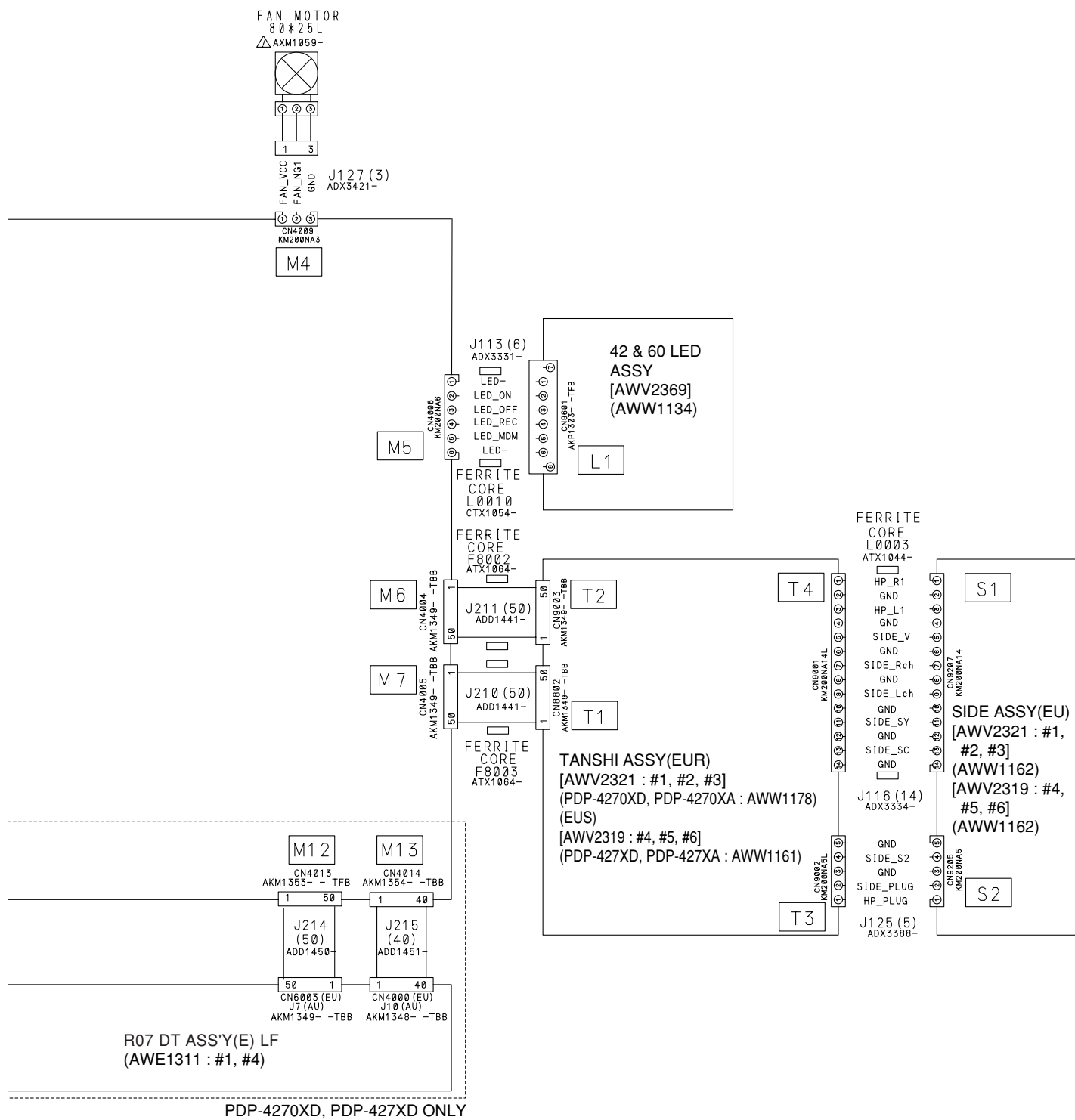
84P-VH  
P11

- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- The encircled numbers denote measuring point in the schematic diagram. Waveforms, refer to service manual (ARP3392).



△





CN4018[M14] →CN9301[PC1]

1→ 12. PC\_R  
2→ 11. GND  
3→ 10. PC\_B  
4→ 9. GND  
5→ 8. PC\_G  
6→ 7. V+9V\_A  
7→ 6. PC\_H  
8→ 5. PC\_V  
9→ 4. V+3.3V\_UCOM  
10→ 3. DSUB\_DET  
11→ 2. WE\_ROM  
12→ 1. V+5V\_A

|     |                    |
|-----|--------------------|
| # 1 | PDP-4270XD/WYVIXK5 |
| # 2 | PDP-4270XA/WYV5    |
| # 3 | PDP-4270XA/WYVIXK5 |
| # 4 | PDP-427XD/WYVIXK5  |
| # 5 | PDP-427XA/WYV5     |
| # 6 | PDP-427XA/WYVIXK5  |

| ASS'Y Table   |            |
|---------------|------------|
| PDP-427XD/XA  | EU Step up |
| PDP-4270XD/XA | EU Regular |

# 4.3 OVERALL BLOCK DIAGRAM (1/2)

A

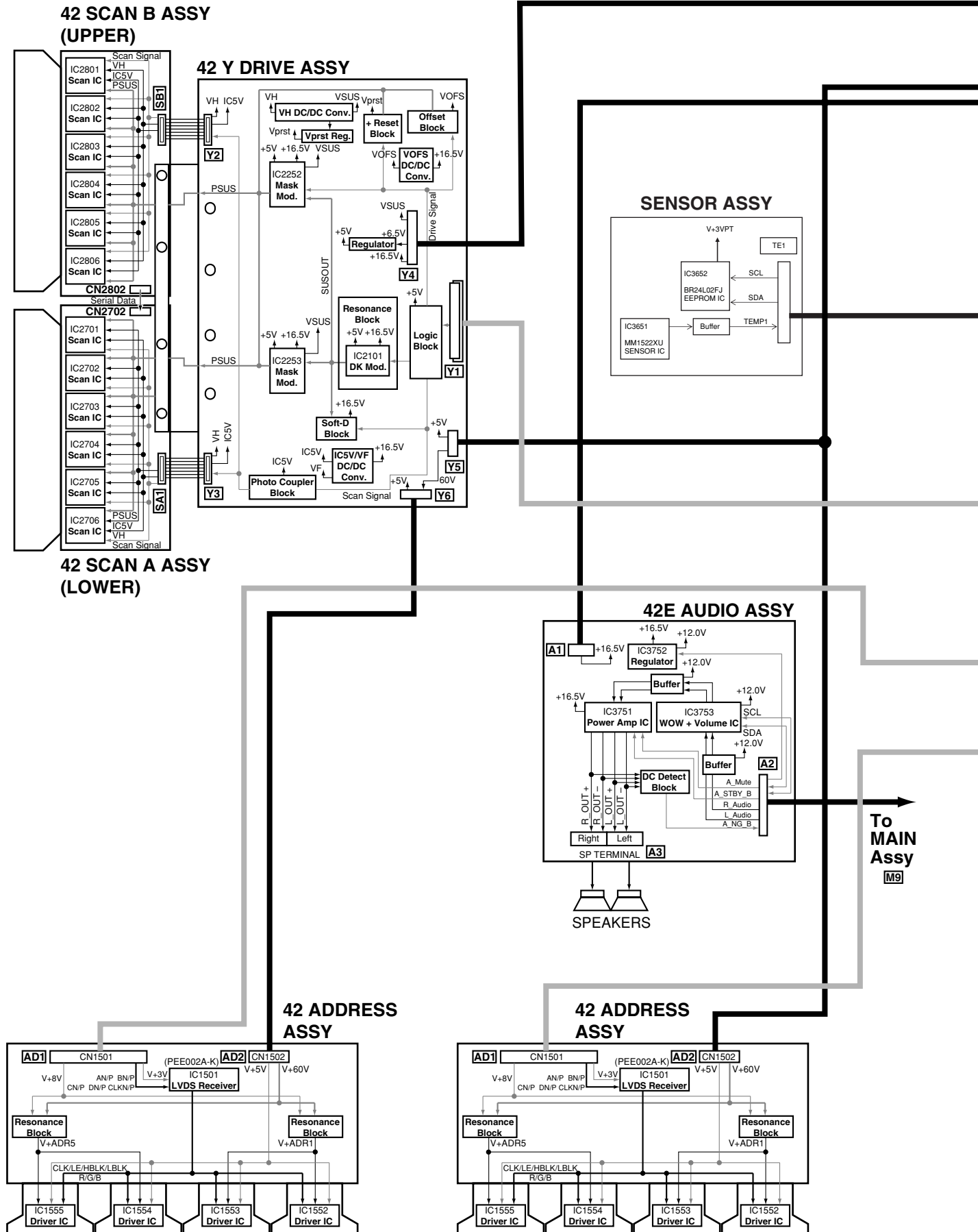
B

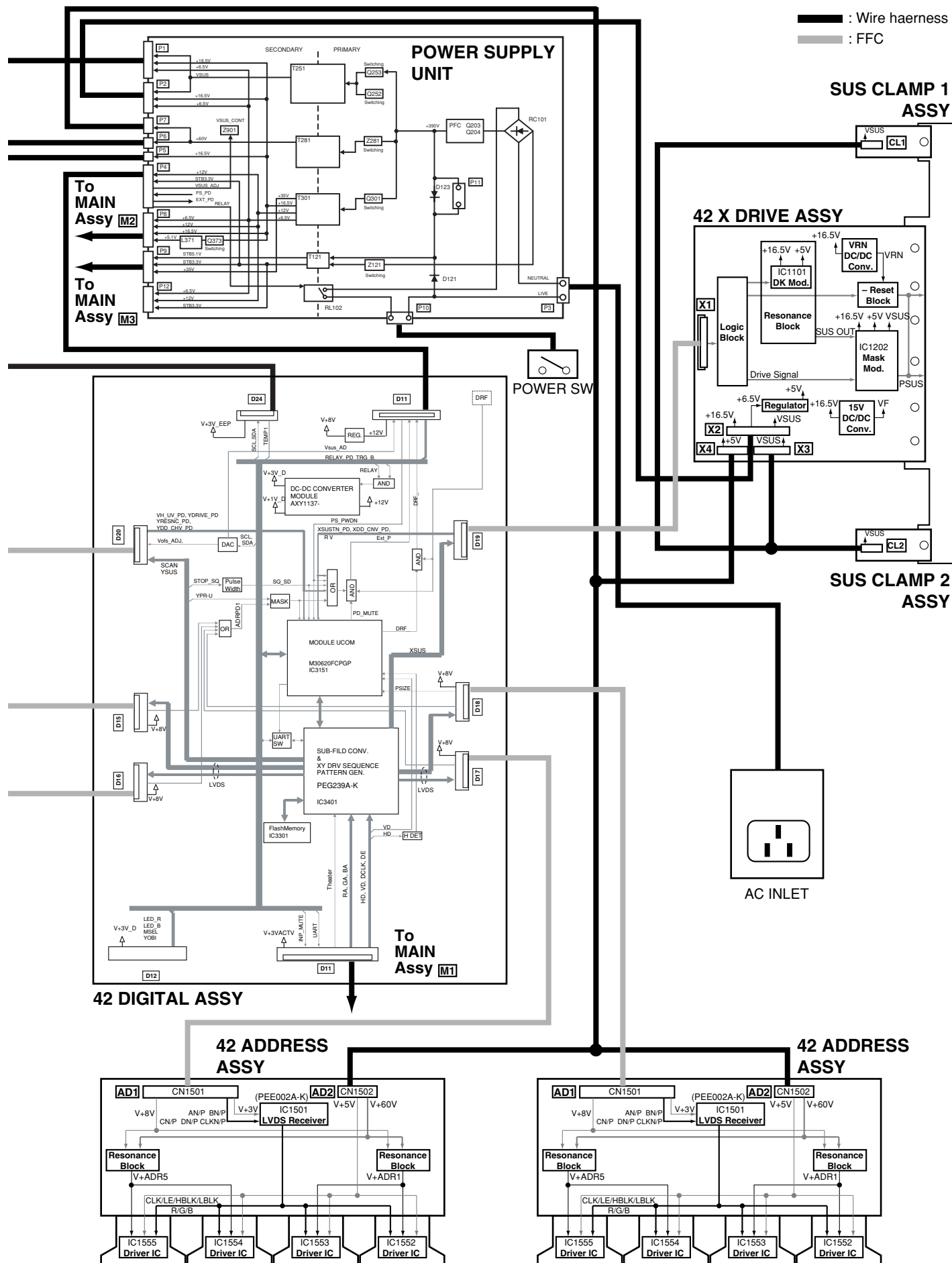
C

D

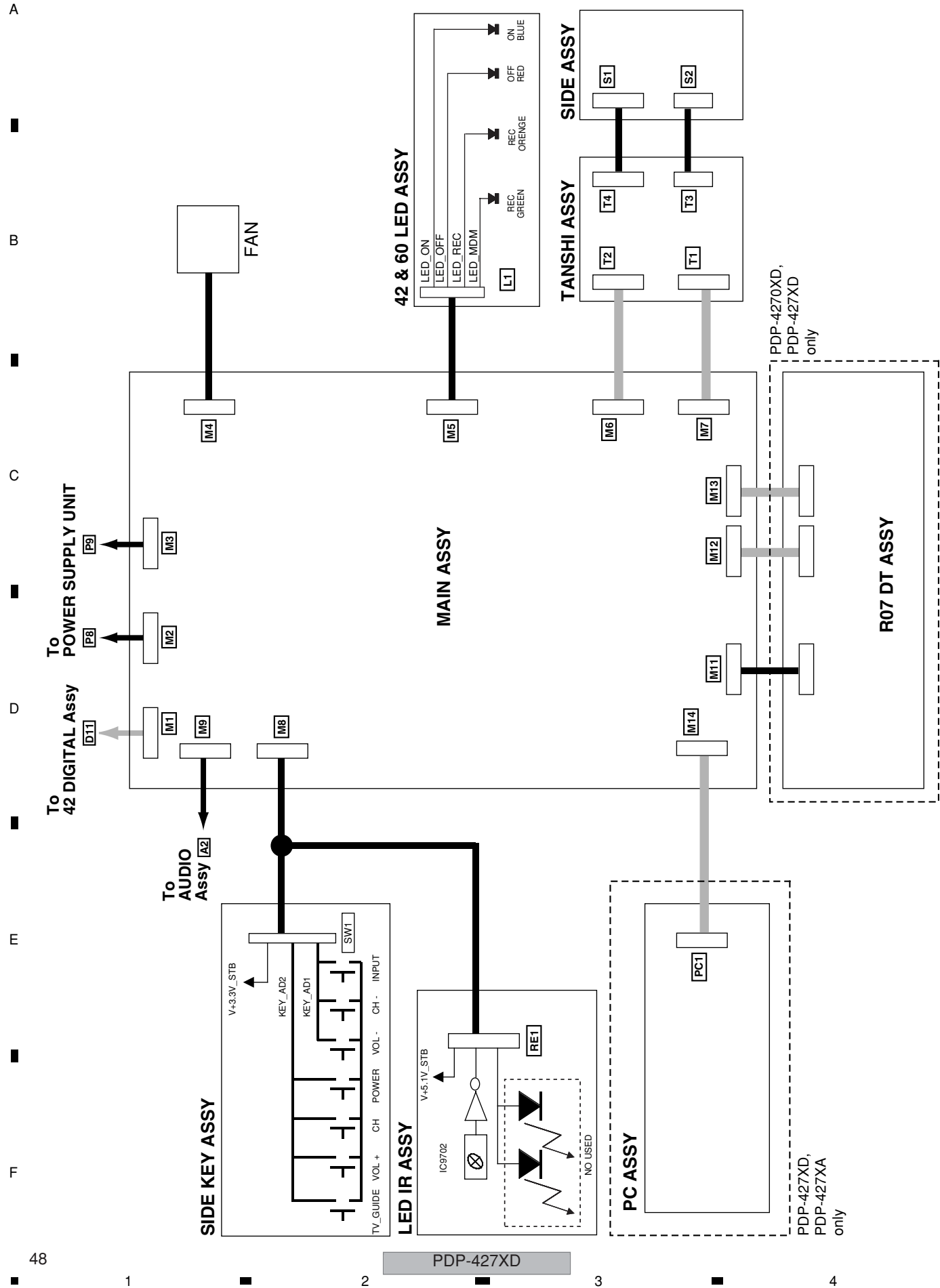
E

F

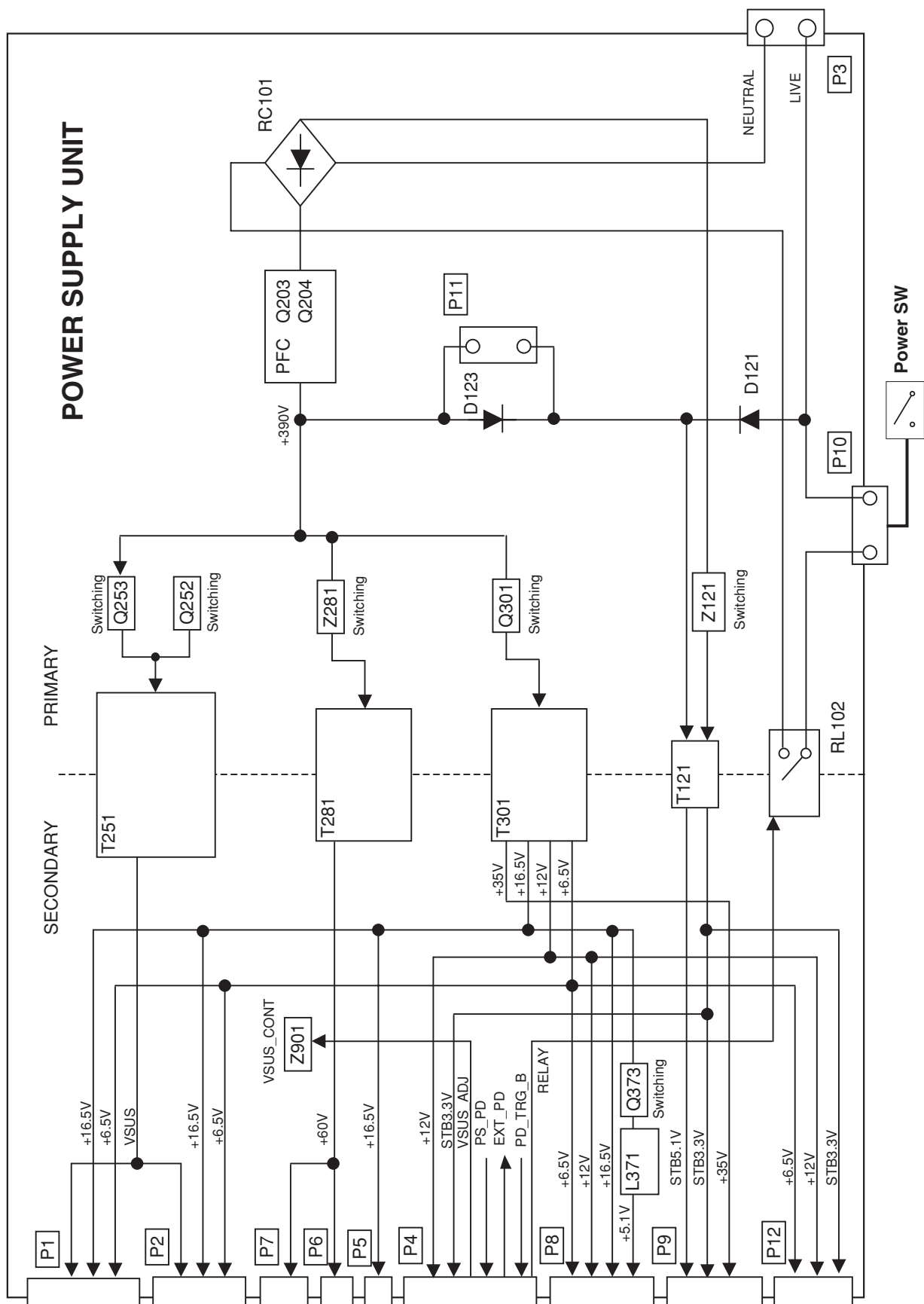




4.4 OVERALL BLOCK DIAGRAM (2/2)

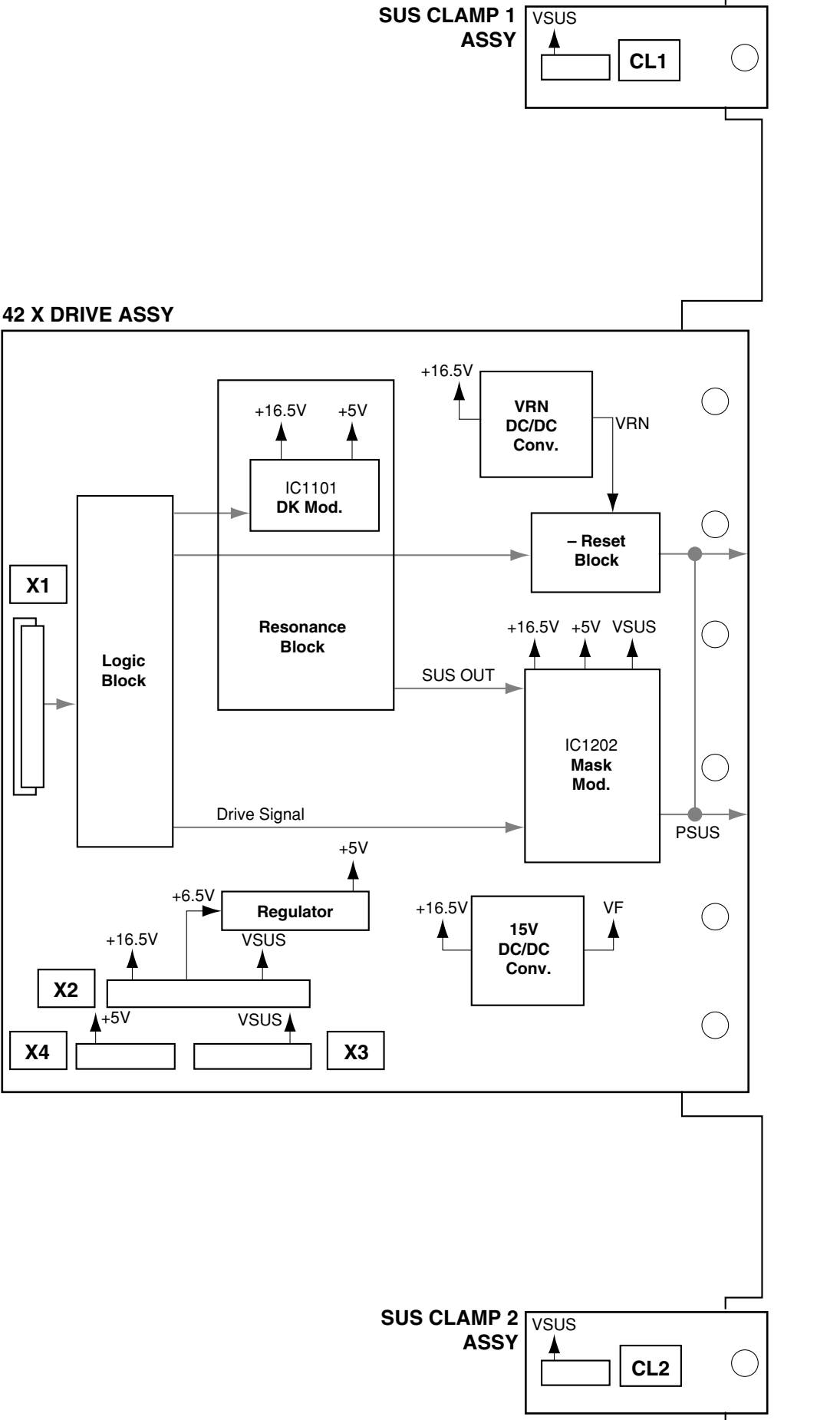


## 4.5 POWER SUPPLY UNIT

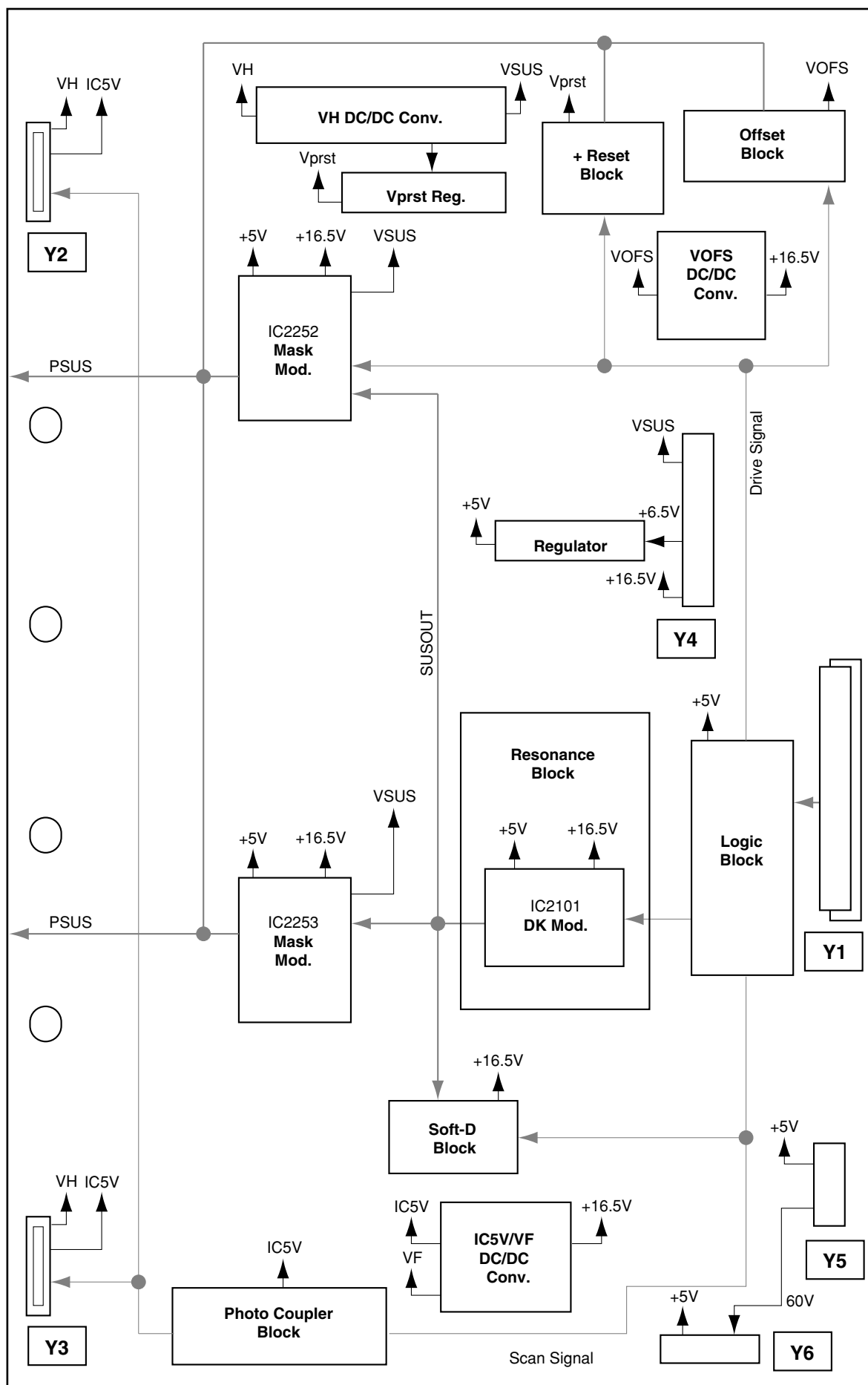


1 2 3 4

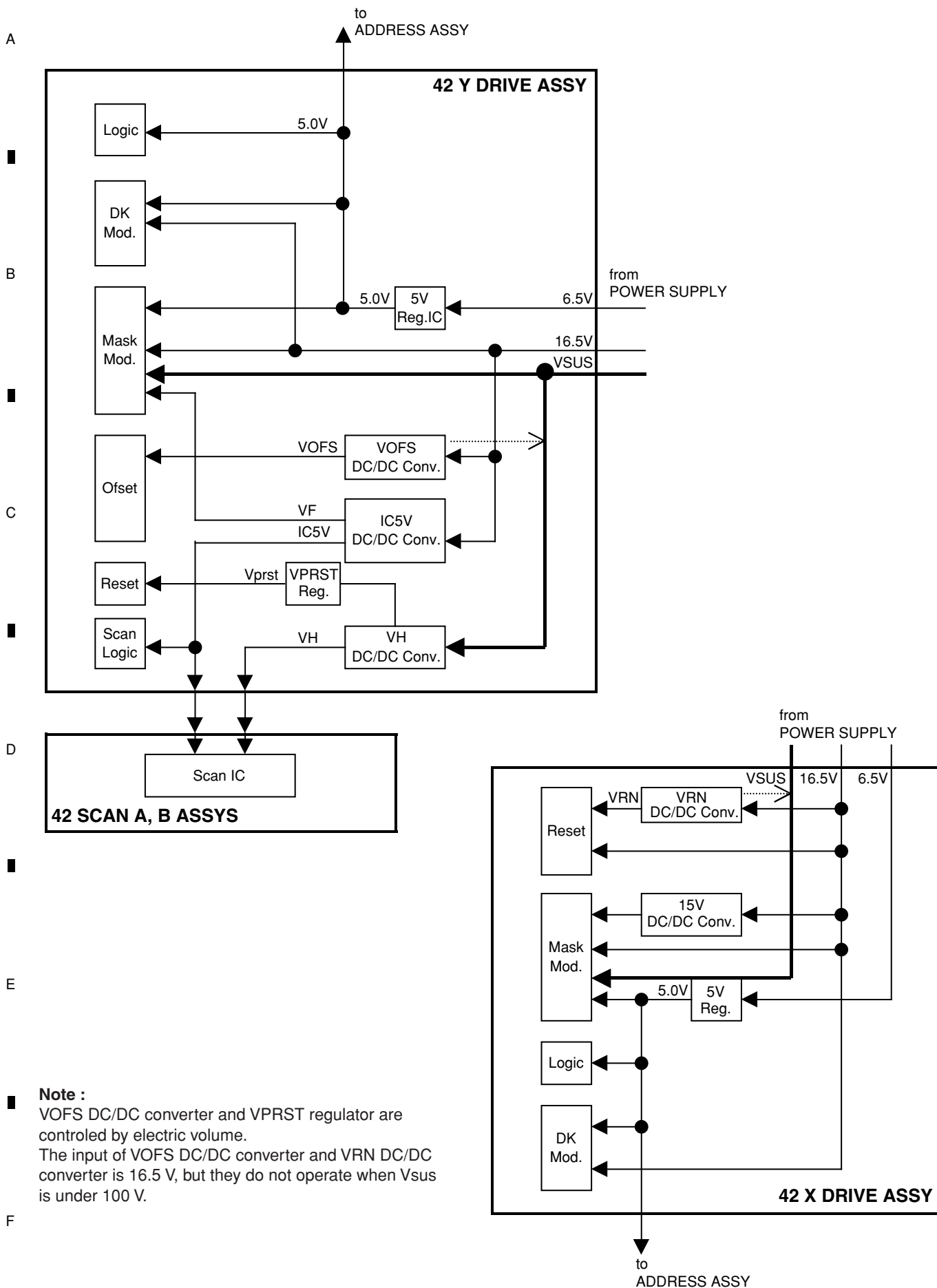
# 4.6 42 X DRIVE, SUS CLAMP 1 and SUS CLAMP 2 ASSYS



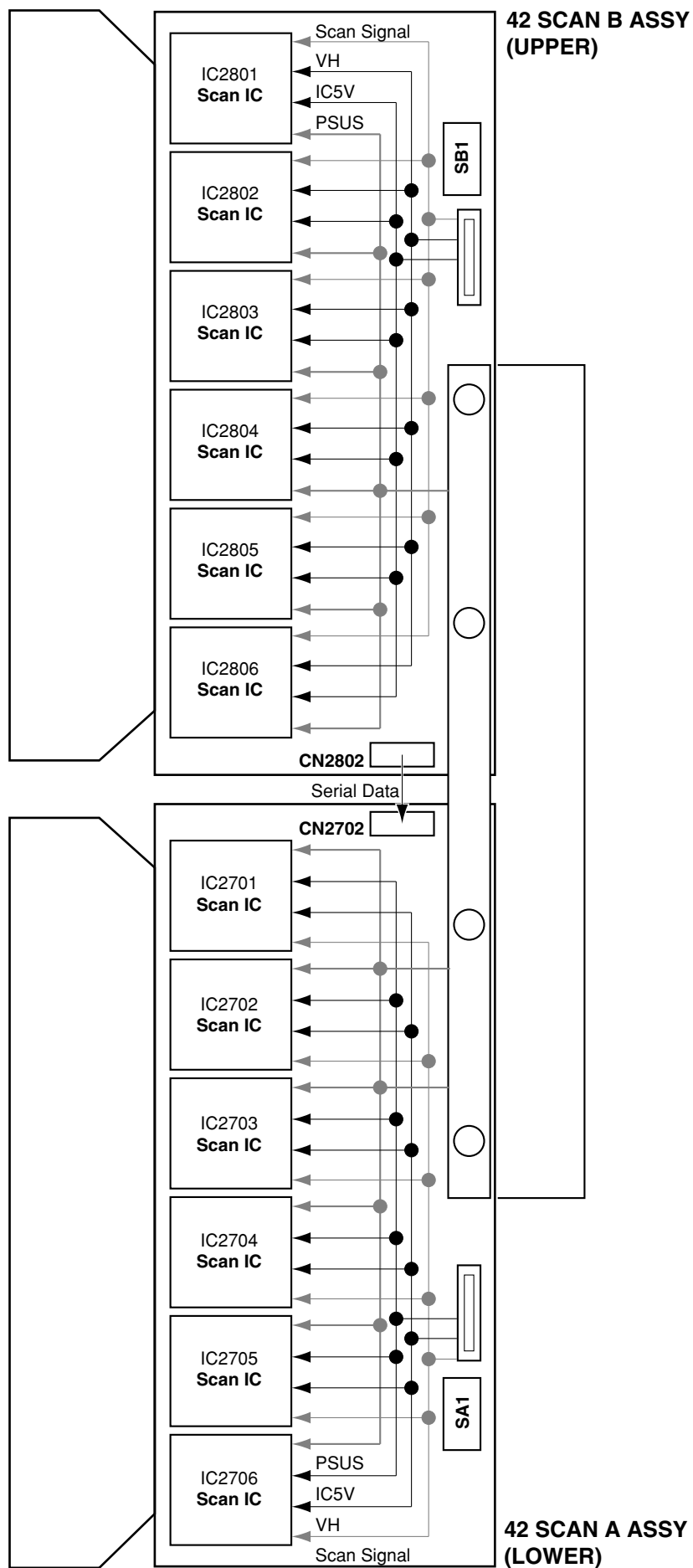
## 4.7 42 Y DRIVE ASSY



## 4.8 POWER SUPPLY BLOCK of 42 X DRIVE and 42 Y DRIVE ASSYS



# 5 6 7 8 4.9 42 SCAN A and 42 SCAN B ASSYS



1 2 3 4

# 4.10 42 ADDRESS ASSY

A

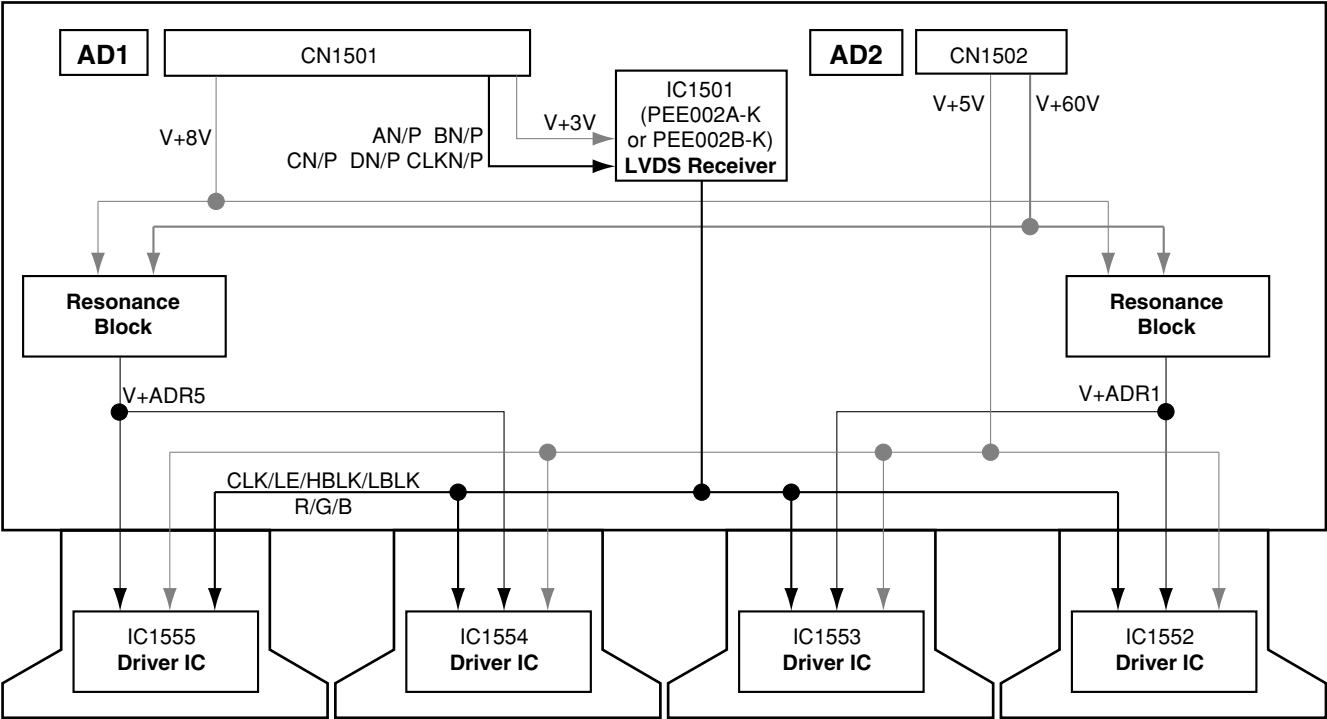
B

C

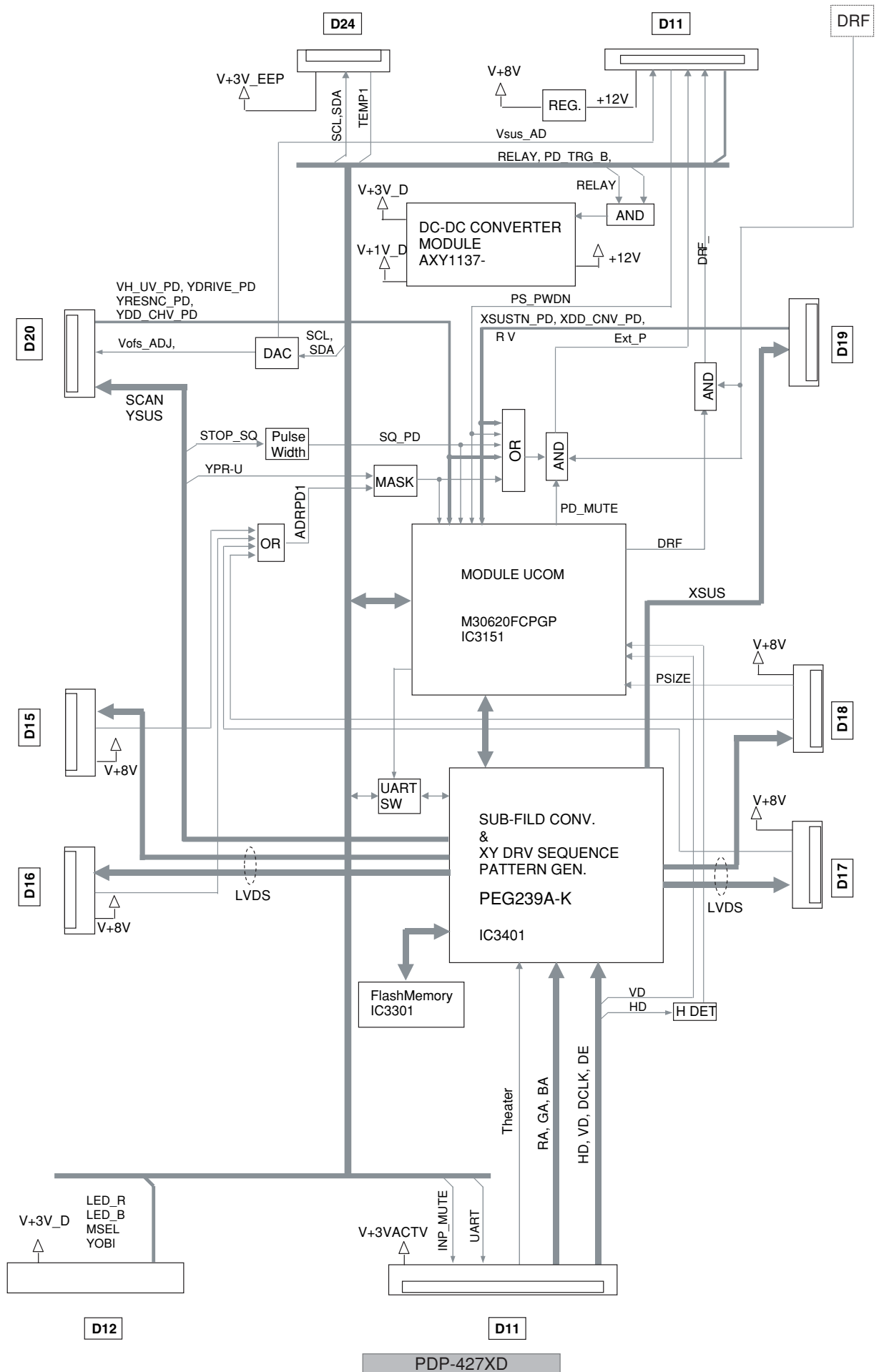
D

E

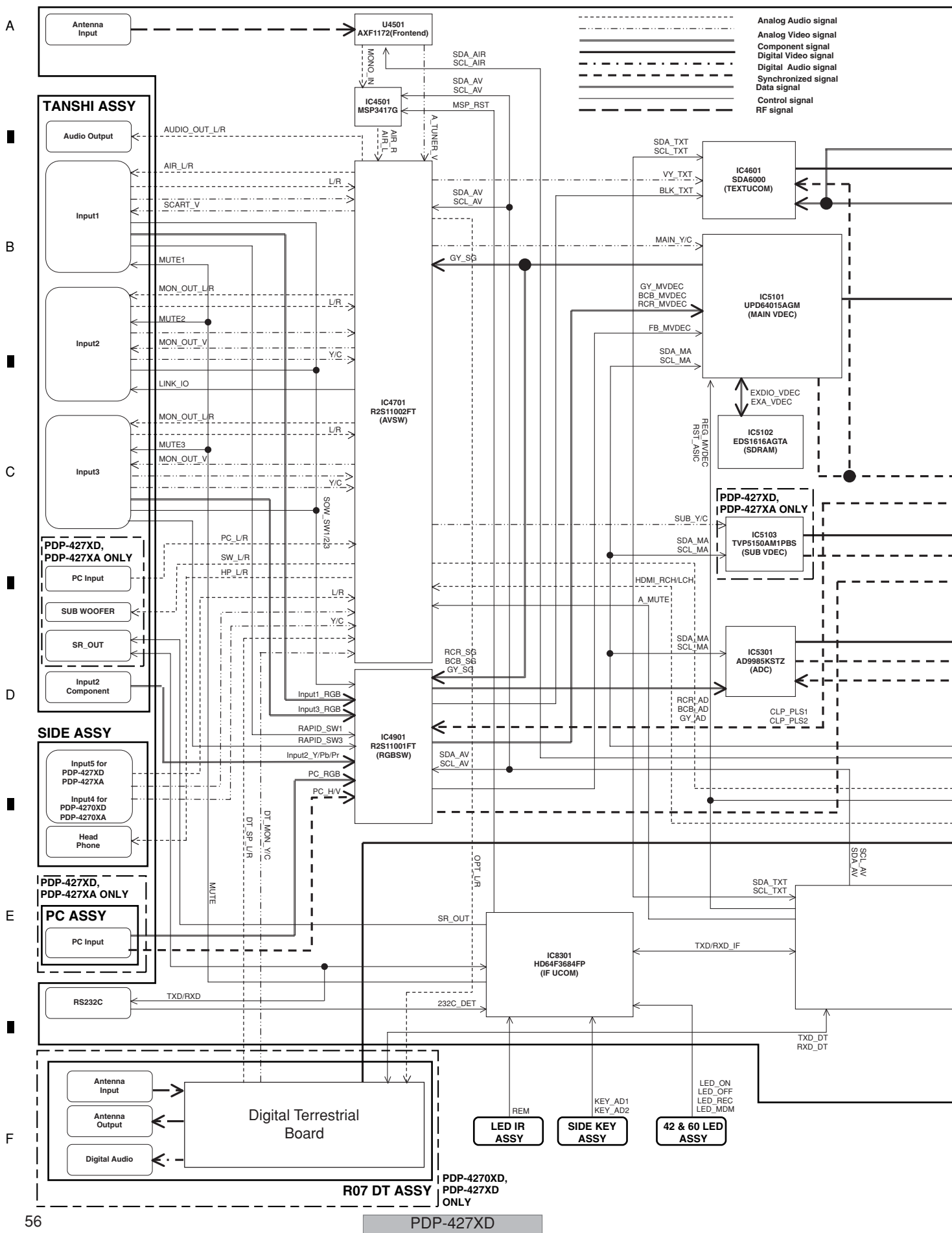
F



## 4.11 42 DIGITAL ASSY



# 4.12 SIGNAL BLOCK DIAGRAM





1 2 3 4

# 4.13 R07 DT ASSY (PDP-4270XD and PDP-427XD ONLY)

A

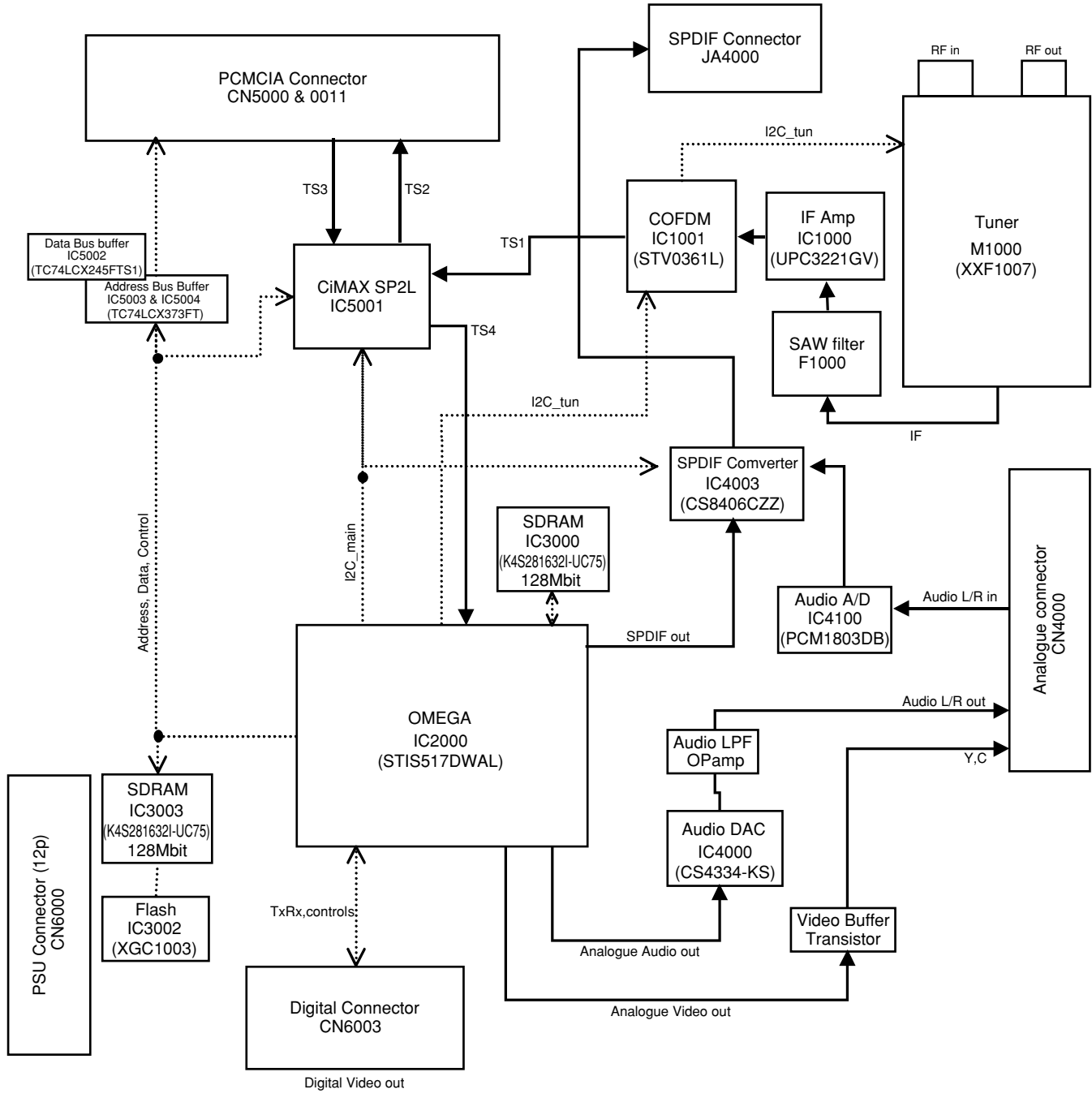
B

C

D

E

F

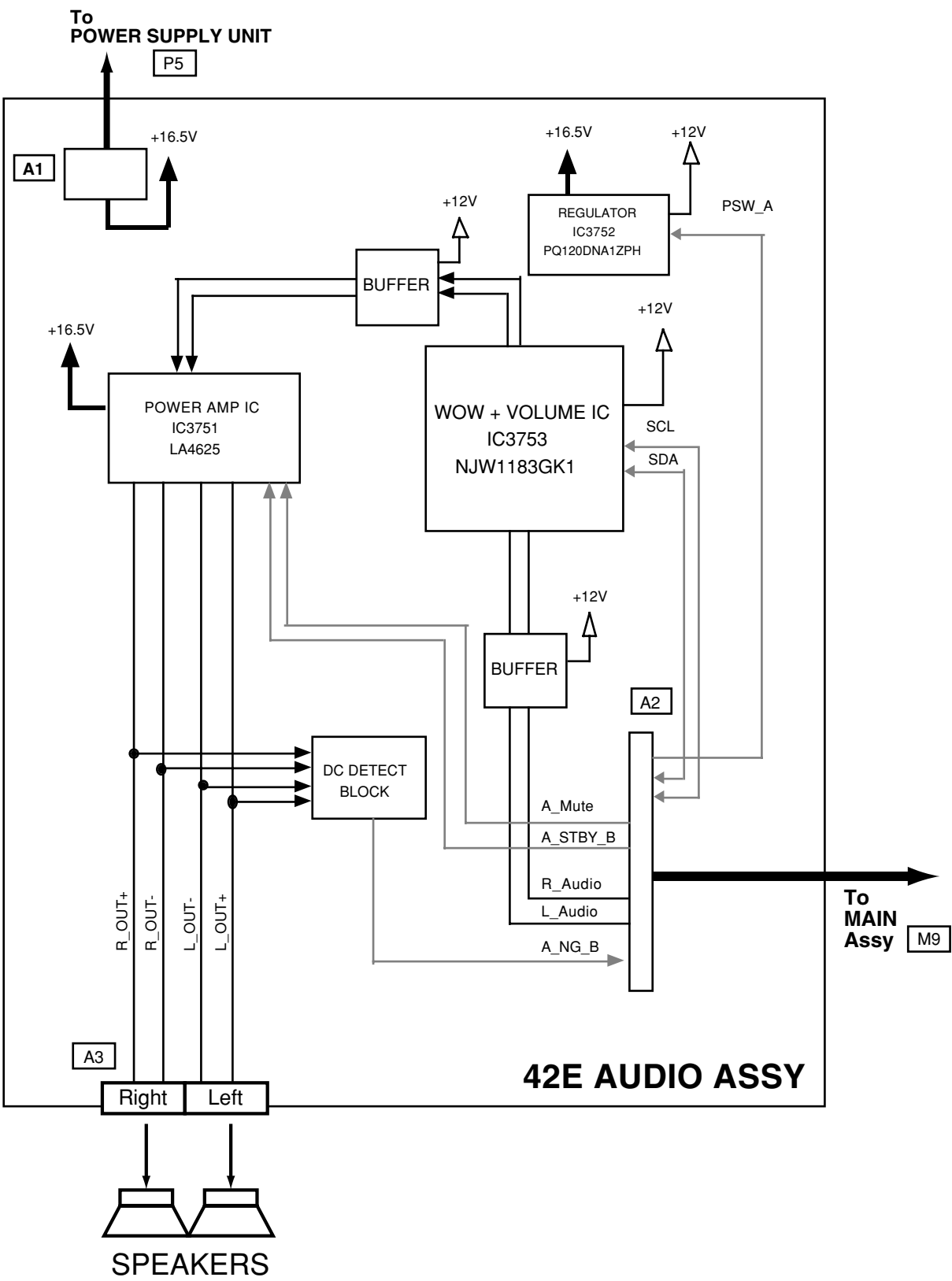


## A

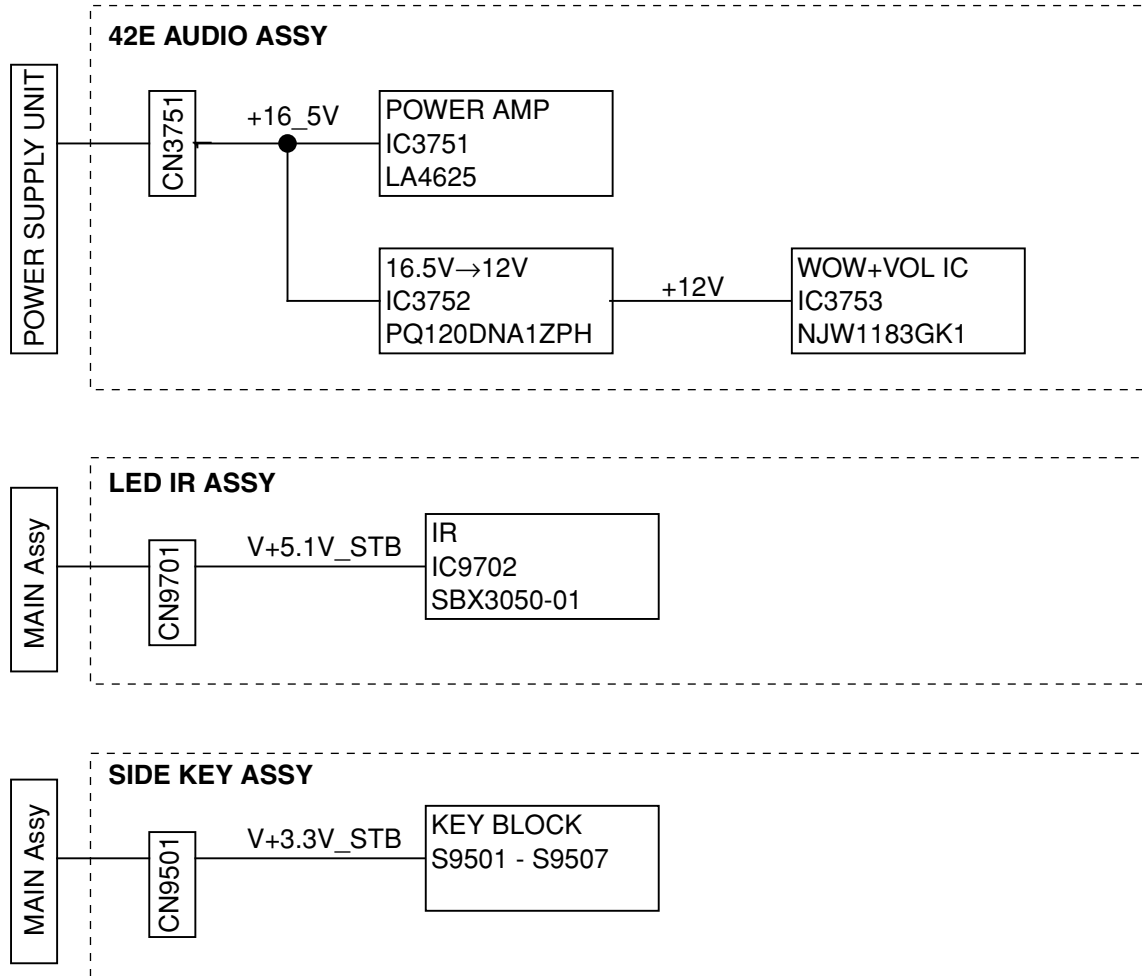


1 2 3 4

# 4.15 42E AUDIO ASSY



## 4.16 POWER SUPPLY BLOCK of 42E AUDIO, LED IR and SIDE KEY ASSYS



## 4.17 VOLTAGES

A 42 DIGITAL Assy

MAIN Assy

| CN3001 (AKM1353) |             | Voltage (V) | CN4001 (AKM1349) |     |
|------------------|-------------|-------------|------------------|-----|
| No.              | Pin Name    |             | Pin Name         | No. |
| 1                | GND         | 0           | GND              | 1   |
| 2                | V_3.3V_UCOM | 3.3         | V_3.3V_UCOM      | 2   |
| 3                | INP_MUTE    | 0           | INP_MUTE         | 3   |
| 4                | THEATER     | 0           | THEATER          | 4   |
| 5                | VD          | 0/3.3       | VD               | 5   |
| 6                | HD          | 0/3.3       | HD               | 6   |
| 7                | DE          | 0/3.3       | DE               | 7   |
| 8                | GND         | 0           | GND              | 8   |
| 9                | CLK         | 0/3.3       | CLK              | 9   |
| 10               | GND         | 0           | GND              | 10  |
| 11               | GND         | 0           | GND              | 11  |
| 12               | VIDEO_R9    | 0           | VIDEO_R9         | 12  |
| 13               | VIDEO_R8    | 0           | VIDEO_R8         | 13  |
| 14               | VIDEO_R7    | 0           | VIDEO_R7         | 14  |
| 15               | VIDEO_R6    | 0           | VIDEO_R6         | 15  |
| 16               | VIDEO_R5    | 0           | VIDEO_R5         | 16  |
| 17               | VIDEO_R4    | 0           | VIDEO_R4         | 17  |
| 18               | VIDEO_R3    | 0           | VIDEO_R3         | 18  |
| 19               | VIDEO_R2    | 0           | VIDEO_R2         | 19  |
| 20               | VIDEO_R1    | 0           | VIDEO_R1         | 20  |
| 21               | VIDEO_R0    | 0           | VIDEO_R0         | 21  |
| 22               | GND         | 0           | GND              | 22  |
| 23               | VIDEO_G9    | 0           | VIDEO_G9         | 23  |
| 24               | VIDEO_G8    | 0           | VIDEO_G8         | 24  |
| 25               | VIDEO_G7    | 0           | VIDEO_G7         | 25  |
| 26               | VIDEO_G6    | 0           | VIDEO_G6         | 26  |
| 27               | VIDEO_G5    | 0           | VIDEO_G5         | 27  |
| 28               | VIDEO_G4    | 0           | VIDEO_G4         | 28  |
| 29               | VIDEO_G3    | 0           | VIDEO_G3         | 29  |
| 30               | VIDEO_G2    | 0           | VIDEO_G2         | 30  |
| 31               | VIDEO_G1    | 0           | VIDEO_G1         | 31  |
| 32               | VIDEO_G0    | 0           | VIDEO_G0         | 32  |
| 33               | GND         | 0           | GND              | 33  |
| 34               | VIDEO_B9    | 0           | VIDEO_B9         | 34  |
| 35               | VIDEO_B8    | 0           | VIDEO_B8         | 35  |
| 36               | VIDEO_B7    | 0           | VIDEO_B7         | 36  |
| 37               | VIDEO_B6    | 0           | VIDEO_B6         | 37  |
| 38               | VIDEO_B5    | 0           | VIDEO_B5         | 38  |
| 39               | VIDEO_B4    | 0           | VIDEO_B4         | 39  |
| 40               | VIDEO_B3    | 0           | VIDEO_B3         | 40  |
| 41               | VIDEO_B2    | 0           | VIDEO_B2         | 41  |
| 42               | VIDEO_B1    | 0           | VIDEO_B1         | 42  |
| 43               | VIDEO_B0    | 0           | VIDEO_B0         | 43  |
| 44               | GND         | 0           | GND              | 44  |
| 45               | Reserve     | 0           | Reserve          | 45  |
| 46               | AC_OFF      | 0           | AC_OFF           | 46  |
| 47               | TXD_MD      | 3.3         | TXD_MD           | 47  |
| 48               | RXD_MD      | 3.3         | RXD_MD           | 48  |
| 49               | REQ_MD      | 0           | REQ_MD           | 49  |
| 50               | MODE        | 0           | MODE             | 50  |

TANSI Assy

MAIN Assy

| CN8802 (AKM1349) |                | Voltage (V) | CN4004 (AKM1349) |     |
|------------------|----------------|-------------|------------------|-----|
| No.              | Pin Name       |             | Pin Name         | No. |
| 1                | Input3_G       | 2.4         | Input3_G         | 50  |
| 2                | GND            | 0           | GND              | 49  |
| 3                | Input3_B       | 2.4         | Input3_B         | 48  |
| 4                | GND            | 0           | GND              | 47  |
| 5                | Input3_R       | 2.4         | Input3_R         | 46  |
| 6                | GND            | 0           | GND              | 45  |
| 7                | Input1_G       | 2.4         | Input1_G         | 44  |
| 8                | GND            | 0           | GND              | 43  |
| 9                | Input1_B       | 2.4         | Input1_B         | 42  |
| 10               | GND            | 0           | GND              | 41  |
| 11               | Input1_R       | 2.4         | Input1_R         | 40  |
| 12               | GND            | 0           | GND              | 39  |
| 13               | RAPID_SW3      | 0           | RAPID_SW3        | 38  |
| 14               | RAPID_SW1      | 0           | RAPID_SW1        | 37  |
| 15               | GND            | 0           | GND              | 36  |
| 16               | LINK_IO3       | 4.9         | LINK_IO3         | 35  |
| 17               | GND            | 0           | GND              | 34  |
| 18               | LINK_IO2       | 4.9         | LINK_IO2         | 33  |
| 19               | SLOW_SW1       | 0           | SLOW_SW1         | 32  |
| 20               | SLOW_SW2       | 0           | SLOW_SW2         | 31  |
| 21               | SLOW_SW3       | 0           | SLOW_SW3         | 30  |
| 22               | IN2_CompY_PLUG | 0           | IN2_CompY_PLUG   | 29  |
| 23               | GND            | 0           | GND              | 28  |
| 24               | Input2_Y       | 2.4         | Input2_Y         | 27  |
| 25               | GND            | 0           | GND              | 26  |
| 26               | Input2_Pb      | 2.4         | Input2_Pb        | 25  |
| 27               | GND            | 0           | GND              | 24  |
| 28               | Input2_Pr      | 2.4         | Input2_Pr        | 23  |
| 29               | GND            | 0           | GND              | 22  |
| 30               | Input3_V       | 0           | Input3_V         | 21  |
| 31               | GND            | 0           | GND              | 20  |
| 32               | Input3_SC      | 2.2         | Input3_SC        | 19  |
| 33               | GND            | 0           | GND              | 18  |
| 34               | Input2_V       | 0           | Input2_V         | 17  |
| 35               | GND            | 0           | GND              | 16  |
| 36               | Input2_SC      | 2.2         | Input2_SC        | 15  |
| 37               | GND            | 0           | GND              | 14  |
| 38               | Input1_V       | 2.6         | Input1_V         | 13  |
| 39               | GND            | 0           | GND              | 12  |
| 40               | AIR_OUT_V      | 3.4         | AIR_OUT_V        | 11  |
| 41               | GND            | 0           | GND              | 10  |
| 42               | SCART_OUT_V    | 3.6         | SCART_OUT_V      | 9   |
| 43               | GND            | 0           | GND              | 8   |
| 44               | Input1_Lch     | 4.5         | Input1_Lch       | 7   |
| 45               | GND            | 0           | GND              | 6   |
| 46               | Input1_Rch     | 4.5         | Input1_Rch       | 5   |
| 47               | GND            | 0           | GND              | 4   |
| 48               | Input2_Lch     | 4.5         | Input2_Lch       | 3   |
| 49               | GND            | 0           | GND              | 2   |
| 50               | Input2_Rch     | 4.5         | Input2_Rch       | 1   |

TANSHI Assy

MAIN Assy

| CN9003 (AKM1349) |               | Voltage (V) | CN4005 (AKM1349) |     |
|------------------|---------------|-------------|------------------|-----|
| No.              | Pin Name      |             | Pin Name         | No. |
| 1                | V+9V_A        | 9.1         | V+9V_A           | 50  |
| 2                | V+9V_AS       | 9           | V+9V_AS          | 49  |
| 3                | GND           | 0           | GND              | 48  |
| 4                | INPUT3_Lch    | 4.5         | INPUT3_Lch       | 47  |
| 5                | GND           | 0           | GND              | 46  |
| 6                | INPUT3_Rch    | 4.5         | INPUT3_Rch       | 45  |
| 7                | GND           | 0           | GND              | 44  |
| 8                | PC_Lch        | 4.5         | PC_Lch           | 43  |
| 9                | GND           | 0           | GND              | 42  |
| 10               | PC_Rch        | 4.5         | PC_Rch           | 41  |
| 11               | GND           | 0           | GND              | 40  |
| 12               | SIDE_Lch      | 4.5         | SIDE_Lch         | 39  |
| 13               | GND           | 0           | GND              | 38  |
| 14               | SIDE_Rch      | 4.5         | SIDE_Rch         | 37  |
| 15               | GND           | 0           | GND              | 36  |
| 16               | AIR_Lch       | 3.8         | AIR_Lch          | 35  |
| 17               | GND           | 0           | GND              | 34  |
| 18               | AIR_Rch       | 3.8         | AIR_Rch          | 33  |
| 19               | GND           | 0           | GND              | 32  |
| 20               | SCART_OUT_Lch | 4.5         | SCART_OUT_Lch    | 31  |
| 21               | GND           | 0           | GND              | 30  |
| 22               | SCART_OUT_Rch | 4.5         | SCART_OUT_Rch    | 29  |
| 23               | V+3_3V_STB    | 3.3         | V+3_3V_STB       | 28  |
| 24               | HP_L          | 4.5         | HP_L             | 27  |
| 25               | GND           | 0           | GND              | 26  |
| 26               | HP_R          | 4.5         | HP_R             | 25  |
| 27               | GND           | 0           | GND              | 24  |
| 28               | SIDE_PLUG     | 4.9         | SIDE_PLUG        | 23  |
| 29               | SIDE_V        | 2.5         | SIDE_V           | 22  |
| 30               | GND           | 0           | GND              | 21  |
| 31               | SIDE_SY       | 2.5         | SIDE_SY          | 20  |
| 32               | GND           | 0           | GND              | 19  |
| 33               | SIDE_S2       | 0.2         | SIDE_S2          | 18  |
| 34               | GND           | 0           | GND              | 17  |
| 35               | SIDE_SC       | 0           | SIDE_SC          | 16  |
| 36               | GND           | 0           | GND              | 15  |
| 37               | AUDIO_OUT_Lch | 4.6         | AUDIO_OUT_Lch    | 14  |
| 38               | GND           | 0           | GND              | 13  |
| 39               | AUDIO_OUT_Rch | 4.6         | AUDIO_OUT_Rch    | 12  |
| 40               | GND           | 0           | GND              | 11  |
| 41               | RXD_SR        | 3.2         | RXD_SR           | 10  |
| 42               | TXD_SR        | 3.2         | TXD_SR           | 9   |
| 43               | SR_OUT        | 5.0         | SR_OUT           | 8   |
| 44               | AC_SC3_MUTE   | 0           | AC_SC3_MUTE      | 7   |
| 45               | AC_SC2_MUTE   | 0           | AC_SC2_MUTE      | 6   |
| 46               | AC_SC1_MUTE   | 0           | AC_SC1_MUTE      | 5   |
| 47               | AC_AM_MUTE    | 0           | AC_AM_MUTE       | 4   |
| 48               | AC_HP_MUTE    | 0           | AC_HP_MUTE       | 3   |
| 49               | HP_PLUG       | 2.9         | HP_PLUG          | 2   |
| 50               | V+5V_A        | 5.0         | V+5V_A           | 1   |

R07 DT Assy

MAIN Assy

| CN6003 (AKM1349) |                       | Voltage (V) | CN4013 (AKM1353)      |     |
|------------------|-----------------------|-------------|-----------------------|-----|
| No.              | Pin Name              |             | Pin Name              | No. |
| 1                | GND                   | 0           | GND                   | 50  |
| 2                | RXDA (TXD_DT)         | 3.3         | TXD_DT (RXDA)         | 49  |
| 3                | TXDA (RXD_DT)         | 3.3         | RXD_DT (TXDA)         | 48  |
| 4                | GND                   | 0           | GND                   | 47  |
| 5                | DT_FNC                | 3.3         | DT_FNC                | 46  |
| 6                | GND                   | 0           | GND                   | 45  |
| 7                | CLK_DT                | 0 to 3.3    | CLK_DT                | 44  |
| 8                | GND                   | 0           | GND                   | 43  |
| 9                | DVID_CrCb [7] (Y7_DT) | 0 to 3.3    | Y7_DT (DVID_CrCb [7]) | 42  |
| 10               | DVID_CrCb [6] (Y6_DT) | 0 to 3.3    | Y6_DT (DVID_CrCb [6]) | 41  |
| 11               | GND                   | 0           | GND                   | 40  |
| 12               | DVID_CrCb [5] (Y5_DT) | 0 to 3.3    | Y5_DT (DVID_CrCb [5]) | 39  |
| 13               | DVID_CrCb [4] (Y4_DT) | 0 to 3.3    | Y4_DT (DVID_CrCb [4]) | 38  |
| 14               | GND                   | 0           | GND                   | 37  |
| 15               | DVID_CrCb [3] (Y3_DT) | 0 to 3.3    | Y3_DT (DVID_CrCb [3]) | 36  |
| 16               | DVID_CrCb [2] (Y2_DT) | 0 to 3.3    | Y2_DT (DVID_CrCb [2]) | 35  |
| 17               | GND                   | 0           | GND                   | 34  |
| 18               | DVID_CrCb [1] (Y1_DT) | 0 to 3.3    | Y1_DT (DVID_CrCb [1]) | 33  |
| 19               | DVID_CrCb [0] (Y0_DT) | 0 to 3.3    | Y0_DT (DVID_CrCb [0]) | 32  |
| 20               | GND                   | 0           | GND                   | 31  |
| 21               | NC                    | 0           | CB7_DT                | 30  |
| 22               | NC                    | 0           | CB6_DT                | 29  |
| 23               | GND                   | 0           | GND                   | 28  |
| 24               | GND                   | 0           | CB5_DT                | 27  |
| 25               | GND                   | 0           | CB4_DT                | 26  |
| 26               | GND                   | 0           | GND                   | 25  |
| 27               | GND                   | 0           | CB3_DT                | 24  |
| 28               | GND                   | 0           | CB2_DT                | 23  |
| 29               | GND                   | 0           | GND                   | 22  |
| 30               | GND                   | 0           | CB1_DT                | 21  |
| 31               | GND                   | 0           | CB0_DT                | 20  |
| 32               | GND                   | 0           | GND                   | 19  |
| 33               | GND                   | 0           | CR7_DT                | 18  |
| 34               | GND                   | 0           | CR6_DT                | 17  |
| 35               | GND                   | 0           | GND                   | 16  |
| 36               | GND                   | 0           | CR5_DT                | 15  |
| 37               | GND                   | 0           | CR4_DT                | 14  |
| 38               | GND                   | 0           | GND                   | 13  |
| 39               | GND                   | 0           | CR3_DT                | 12  |
| 40               | GND                   | 0           | CR2_DT                | 11  |
| 41               | GND                   | 0           | GND                   | 10  |
| 42               | GND                   | 0           | CR1_DT                | 9   |
| 43               | GND                   | 0           | CR0_DT                | 8   |
| 44               | GND                   | 0           | GND                   | 7   |
| 45               | DE_DT                 | 0           | DE_DT                 | 6   |
| 46               | GND                   | 0           | GND                   | 5   |
| 47               | VD_DT                 | 3.3         | VD_DT                 | 4   |
| 48               | GND                   | 0           | GND                   | 3   |
| 49               | HD_DT                 | 3.3         | HD_DT                 | 2   |
| 50               | GND                   | 0           | GND                   | 1   |

## A R07 DT Assy

## MAIN Assy

| CN4000 (AKM1348) |            | Voltage<br>(V) | CN4014 (AKM1354) |     |
|------------------|------------|----------------|------------------|-----|
| No.              | Pin Name   |                | Pin Name         | No. |
| 1                | GND        | 0              | GND              | 40  |
| 2                | GND        | 0              | GND              | 39  |
| 3                | GND        | 0              | GND              | 38  |
| 4                | GND        | 0              | GND              | 37  |
| 5                | GND        | 0              | GND              | 36  |
| 6                | GND        | 0              | GND              | 35  |
| 7                | DT_SP_R    | 0              | DT_SP_R          | 34  |
| 8                | GND        | 0              | GND              | 33  |
| 9                | DT_SP_L    | 0              | DT_SP_L          | 32  |
| 10               | GND        | 0              | GND              | 31  |
| 11               | OPT_R      | 0              | OPT_R            | 30  |
| 12               | GND        | 0              | GND              | 29  |
| 13               | OPT_L      | 0              | OPT_L            | 28  |
| 14               | GND        | 0              | GND              | 27  |
| 15               | DT_MON_C   | 1.7            | DT_MON_C         | 26  |
| 16               | GND        | 0              | GND              | 25  |
| 17               | GND        | 0              | GND              | 24  |
| 18               | DT_MON_Y   | 1.7            | DT_MON_Y         | 23  |
| 19               | GND        | 0              | GND              | 22  |
| 20               | GND        | 0              | GND              | 21  |
| 21               | GND        | 0              | GND              | 20  |
| 22               | GND        | 0              | GND              | 19  |
| 23               | GND        | 0              | GND              | 18  |
| 24               | GND        | 0              | GND              | 17  |
| 25               | GND        | 0              | GND              | 16  |
| 26               | GND        | 0              | GND              | 15  |
| 27               | NOT_USE    | 0              | NC               | 14  |
| 28               | GND        | 0              | GND              | 13  |
| 29               | GND        | 0              | GND              | 12  |
| 30               | NOT_USE    | 0              | NC               | 11  |
| 31               | GND        | 0              | GND              | 10  |
| 32               | GND        | 0              | GND              | 9   |
| 33               | NOT_USE    | 0              | NC               | 8   |
| 34               | GND        | 0              | GND              | 7   |
| 35               | GND        | 0              | GND              | 6   |
| 36               | ANT_POW_EU | 0              | ANT_POW_EU       | 5   |
| 37               | POW_DET    | 0              | POW_DET          | 4   |
| 38               | RST_DT     | 3.3            | RST_DT           | 3   |
| 39               | DT_DET     | 0              | DT_DET           | 2   |
| 40               | GND        | 0              | GND              | 1   |

## 42E AUDIO Assy

## MAIN Assy

| CN3752 (KM200NA11) |          | Voltage<br>(V) | CN4007 (KM200NA11) |     |
|--------------------|----------|----------------|--------------------|-----|
| No.                | Pin Name |                | Pin Name           | No. |
| 11                 | PSW_A    | 2.8            | PSW_A              | 11  |
| 10                 | SDA_AU   | 3.4            | SDA_AU             | 10  |
| 9                  | SCL_AU   | 3.4            | SCL_AU             | 9   |
| 8                  | A_MUTE   | 0              | A_MUTE             | 8   |
| 7                  | A_STBY_B | 3.4            | A_STBY_B           | 7   |
| 6                  | GND      | 0              | GND                | 6   |
| 5                  | AUDIO_R  | 0              | AUDIO_R            | 5   |
| 4                  | GND      | 0              | GND                | 4   |
| 3                  | AUDIO_L  | 0              | AUDIO_L            | 3   |
| 2                  | GND      | 0              | GND                | 2   |
| 1                  | A_NG_B   | 2.8            | A_NG_B             | 1   |

## AUDIO

## MAIN Assy

|     |          | Voltage<br>(V) | CN4015 (B3P-VH) |     |
|-----|----------|----------------|-----------------|-----|
| No. | Pin Name |                | Pin Name        | No. |
|     |          | 17.2           | V+16_5V         | 1   |
|     |          | 0              | GND             | 2   |
|     |          | 0              | GND             | 3   |

## DVI JIG

## MAIN Assy

|     |          | Voltage<br>(V) | CN4011 (AKM1274) |     |
|-----|----------|----------------|------------------|-----|
| No. | Pin Name |                | Pin Name         | No. |
|     |          | 0              | GND              | 1   |
|     |          | 3.4            | V+3_3V_STB       | 2   |
|     |          | 6.5            | V+6_5V           | 3   |

## MAIN Assy

|     |            | Voltage<br>(V) | CN4010 (KM200NA7) |     |
|-----|------------|----------------|-------------------|-----|
| No. | Pin Name   |                | Pin Name          | No. |
| 2   | REM        | 0              | REM               | 7   |
| 6   | GND        | 0              | GND               | 6   |
| 1   | V+5_1V_STB | 5.0            | V+5_1V_STB        | 5   |
| 4   | V+3_3V_STB | 3.4            | V+3_3V_STB        | 4   |
| 3   | KEY_AD1    | 3.4            | KEY_AD1           | 3   |
| 2   | KEY_AD2    | 3.4            | KEY_AD2           | 2   |
| 1   | GND        | 0              | GND               | 1   |

SIDE KEY Assy  
LED IR Assy  
CN9501 (KM200NA4L)  
CN9701 (AKP1303)

## E R07 DT Assy

## MAIN Assy

| CN6000 (AKM1298) |            | Voltage<br>(V) | CN4017 (KM200NA12) |     |
|------------------|------------|----------------|--------------------|-----|
| No.              | Pin Name   |                | Pin Name           | No. |
| 1                | V+35V      | 37.0           | V+35V              | 12  |
| 2                | GND        | 0              | GND                | 11  |
| 3                | NC         | 0              | NC                 | 10  |
| 4                | GND        | 0              | GND                | 9   |
| 5                | V+12V      | 11.8           | V+12V              | 8   |
| 6                | GND        | 0              | GND                | 7   |
| 7                | V+6_5V     | 6.7            | V+6_5V             | 6   |
| 8                | V+5_1V_STB | 5.1            | V+5_1V_STB         | 5   |
| 9                | V+5_1V     | 5.0            | V+5_1V             | 4   |
| 10               | V+5_1V     | 5.0            | V+5_1V             | 3   |
| 11               | GND        | 0              | GND                | 2   |
| 12               | V+3_3V_STB | 3.4            | V+3_3V_STB         | 1   |

## POWER SUPPLY Unit

## MAIN Assy

| P8 (B13B-PH-K-S) |          | Voltage<br>(V) | CN4002 (KM200NA13) |     |
|------------------|----------|----------------|--------------------|-----|
| No.              | Pin Name |                | Pin Name           | No. |
| 1                | V+6_5V   | 6.6            | V+6_5V             | 1   |
| 2                | GND      | 0              | GND                | 2   |
| 3                | V+12V    | 12.1           | V+12V              | 3   |
| 4                | GND      | 0              | GND                | 4   |
| 5                | +16.5V   | 17.2           | V+16.5V            | 5   |
| 6                | GND      | 0              | GND                | 6   |
| 7                | +5_1V    | 4.9            | V+5_1V             | 7   |
| 8                | +5_1V    | 4.9            | V+5_1V             | 8   |
| 9                | +5_1V    | 4.9            | V+5_1V             | 9   |
| 10               | +5_1V    | 4.9            | V+5_1V             | 10  |
| 11               | GND-D    | 0              | GND                | 11  |
| 12               | GND-D    | 0              | GND                | 12  |
| 13               | GND-D    | 0              | GND                | 13  |

## POWER SUPPLY Unit

## MAIN Assy

| P9 (B11B-PH-K-S) |          | Voltage<br>(V) | CN4008 (KM200NA11) |     |
|------------------|----------|----------------|--------------------|-----|
| No.              | Pin Name |                | Pin Name           | No. |
| 1                | M-SW-DET | 3.4            | N.C.               | 1   |
| 2                | AC-DET   | 3.4            | AC_DET             | 2   |
| 3                | N.C.     | 3.4            | RELAY              | 3   |
| 4                | GND-D    | 0              | GND                | 4   |
| 5                | STB3_3V  | 3.4            | V+3_3V_STB         | 5   |
| 6                | GND-D    | 0              | GND                | 6   |
| 7                | STBY5_1V | 5.0            | V+5_1V_STB         | 7   |
| 8                | GND-D    | 0              | GND                | 8   |
| 9                | +35V     | 35.0           | V+35V              | 9   |
| 10               | GND-D    | 0              | GND                | 10  |
| 11               | US-SW    | 0              | US_SW              | 11  |

## Fan

## MAIN Assy

|     |          | Voltage<br>(V) | CN4009 (KM200NA3) |     |
|-----|----------|----------------|-------------------|-----|
| No. | Pin Name |                | Pin Name          | No. |
|     |          | 0              | FAN_VCC           | 1   |
|     |          | 3.4            | FAN_NG1           | 2   |
|     |          | 0              | GND               | 3   |

## PC Assy

## MAIN Assy

| CN9301 (CKS3826) |             | Voltage<br>(V) | CN4018 (AKM1234) |     |
|------------------|-------------|----------------|------------------|-----|
| No.              | Pin Name    |                | Pin Name         | No. |
| 1                | V+5V_A      | 5.0            | V+5V_A           | 12  |
| 2                | WE ROM      | 0              | WE ROM           | 11  |
| 3                | D-sub DET   | 0              | D-sub DET        | 10  |
| 4                | V+3.3V_UCOM | 3.3            | V+3.3V_UCOM      | 9   |
| 5                | PC_V        | 0              | PC_V             | 8   |
| 6                | PC_H        | 0              | PC_H             | 7   |
| 7                | V+9V_A      | 9.0            | V+9V_A           | 6   |
| 8                | PC_G        | 2.4            | PC_G             | 5   |
| 9                | GND         | 0              | GND              | 4   |
| 10               | PC_B        | 2.4            | PC_B             | 3   |
| 11               | GND         | 0              | GND              | 2   |
| 12               | PC_R        | 2.4            | PC_R             | 1   |

## 42 &amp; 60 LED Assy

## MAIN Assy

| CN9601 (AKP1303) |          | Voltage<br>(V) | CN4006 (KM200NA6) |     |
|------------------|----------|----------------|-------------------|-----|
| No.              | Pin Name |                | Pin Name          | No. |
| 1                | LED-     | 0.2            | LED-              | 1   |
| 2                | LED_ON   | 3.4            | LED_ON            | 2   |
| 3                | LED_OFF  | 0              | LED_OFF           | 3   |
| 4                | LED_REC  | 0              | LED_REC           | 4   |
| 5                | LED_MDM  | 0              | LED_MDM           | 5   |
| 6                | LED-     | 0.2            | LED-              | 6   |

## 42 DIGITAL Assy

## 42 X DRIVE Assy

## CN3505 (D19)

## CN1001 (X1)

| Pin No. | Pin Name | I/O | Function                         | Voltage (V) | TP     |
|---------|----------|-----|----------------------------------|-------------|--------|
| 1       | PSW      | O   | Function standby control signal  | 0           | TP3519 |
| 2       | XSUS_PD  | I   | X drive PD signal                | 0           | TP3513 |
| 3       | XDD_PD   | I   | X drive PD signal                | 0           | TP3514 |
| 4       | XDRV_PD  | I   | X drive PD signal                | 0           | TP3515 |
| 5       | GND      | -   | GND                              | -           | -      |
| 6       | XRsv1    | I   | X drive control signal (reserve) | -           | -      |
| 7       | XSUS-MSK | I   | X drive control signal           | 0 to 3.3    | -      |
| 8       | GND      | -   | GND                              | -           | -      |
| 9       | XNR-D    | O   | X drive control signal           | 0 to 3.3    | -      |
| 10      | GND      | -   | GND                              | -           | -      |
| 11      | XSUS-G   | O   | X drive control signal           | 0 to 3.3    | -      |
| 12      | GND      | -   | GND                              | -           | -      |
| 13      | XSUS-D   | O   | X drive control signal           | 0 to 3.3    | -      |
| 14      | GND      | -   | GND                              | -           | -      |
| 15      | XSUS-U   | O   | X drive control signal           | 0 to 3.3    | -      |
| 16      | GND      | -   | GND                              | -           | -      |
| 17      | XSUS-B   | O   | X drive control signal           | 0 to 3.3    | -      |
| 18      | GND      | -   | GND                              | -           | -      |

## 42 DIGITAL Assy

## 42 Y DRIVE Assy

## CN3506 (D20)

## CN2001 (Y1)

| Pin No. | Pin Name   | I/O | Function                         | Voltage (V) | TP     |
|---------|------------|-----|----------------------------------|-------------|--------|
| 1       | GND        | -   | GND                              | -           | -      |
| 2       | SCN5V_PD   | I   | Y drive PD signal                | 0           | TP3507 |
| 3       | SI_L       | O   | Scan control signal              | 0 to 3.3    | -      |
| 4       | SI_H       | O   | Scan control signal              | 0 to 3.3    | -      |
| 5       | GND        | -   | GND                              | -           | -      |
| 6       | CLR        | O   | Scan control signal              | 0 to 3.3    | -      |
| 7       | CLK        | O   | Scan control signal              | 0 to 3.3    | -      |
| 8       | GND        | -   | GND                              | -           | -      |
| 9       | LE         | O   | Scan control signal              | 0 to 3.3    | -      |
| 10      | OC2        | O   | Scan control signal              | 0 to 3.3    | -      |
| 11      | OC1 (-1)   | O   | Scan control signal              | 0 to 3.3    | -      |
| 12      | GND        | -   | GND                              | -           | -      |
| 13      | YSUS-B     | O   | Y drive control signal           | 0 to 3.3    | -      |
| 14      | YSUS-U     | O   | Y drive control signal           | 0 to 3.3    | -      |
| 15      | GND        | -   | GND                              | -           | -      |
| 16      | YSUS-D     | O   | Y drive control signal           | 0 to 3.3    | -      |
| 17      | YSUS-G     | O   | Y drive control signal           | 0 to 3.3    | -      |
| 18      | GND        | -   | GND                              | -           | -      |
| 19      | YPR-U      | O   | Y drive control signal           | 0 to 3.3    | -      |
| 20      | YRsv1      | -   | Y drive control signal (reserve) | -           | -      |
| 21      | GND        | -   | GND                              | -           | -      |
| 22      | YSUS-MSK   | O   | Y drive control signal           | 0 to 3.3    | -      |
| 23      | YNRST      | O   | Y drive control signal           | 0 to 3.3    | -      |
| 24      | YRsv2      | -   | Y drive control signal (reserve) | -           | -      |
| 25      | GND        | -   | GND                              | -           | -      |
| 26      | YENOF5     | O   | Y drive control signal           | 0 to 3.3    | -      |
| 27      | YRsv3      | O   | Y drive control signal (reserve) | -           | -      |
| 28      | YSOFT-D    | O   | Y drive control signal           | 0 to 3.3    | -      |
| 29      | GND        | -   | GND                              | -           | -      |
| 30      | VOFS_ADJ   | -   | Vofs offset adjustment           | 1.85        | TP3181 |
| 31      | VYPRST_ADJ | O   | Reset voltage adjustment         | 1.21        | TP3182 |
| 32      | GND        | -   | GND                              | -           | -      |
| 33      | GND        | -   | GND                              | -           | -      |
| 34      | N.C        | -   | Non connection                   | -           | -      |
| 35      | GND        | -   | GND                              | -           | -      |
| 36      | YDD_PD     | I   | Y drive PD signal                | 0           | TP3509 |
| 37      | YSUS_PD    | I   | Y drive PD signal                | 0           | TP3510 |
| 38      | SCAN_PD    | I   | Y drive PD signal                | 0           | TP3511 |
| 39      | YDRV_PD    | I   | Y drive PD signal                | 0           | TP3512 |
| 40      | PSW        | O   | Function standby control signal  | 0           | TP3518 |

**42 DIGITAL Assy**  
**CN3501 (D15)**

**42 ADDRESS Assy**  
**CN1501 (AD1)**

| Pin No. | Pin Name | I/O | Function              | Voltage (V) | TP     |
|---------|----------|-----|-----------------------|-------------|--------|
| 1       | N.C      | —   | Non connection        | —           | —      |
| 2       | ADR_PD   | I   | Address PD signal     | 0 to 4      | TP3501 |
| 3       | N.C      | —   | Non connection        | —           | —      |
| 4       | GND      | —   | GND                   | —           | —      |
| 5       | V+8V     | O   | +8 V power supply     | 8           | TP3618 |
| 6       | V+8V     | O   | +8 V power supply     | 8           | TP3618 |
| 7       | GND      | —   | GND                   | —           | —      |
| 8       | GND      | —   | GND                   | —           | —      |
| 9       | N.C      | —   | Non connection        | —           | —      |
| 10      | TA—      | O   | LVDS data             | 1 to 1.4    | —      |
| 11      | TA+      | O   | LVDS data             | 1 to 1.4    | —      |
| 12      | N.C      | —   | Non connection        | —           | —      |
| 13      | GND      | —   | GND                   | —           | —      |
| 14      | N.C      | —   | Non connection        | —           | —      |
| 15      | TB—      | O   | LVDS data             | 1 to 1.4    | —      |
| 16      | TB+      | O   | LVDS data             | 1 to 1.4    | —      |
| 17      | N.C      | —   | Non connection        | —           | —      |
| 18      | GND      | —   | GND                   | —           | —      |
| 19      | N.C      | —   | Non connection        | —           | —      |
| 20      | TC—      | O   | LVDS data             | 1 to 1.4    | —      |
| 21      | TC+      | O   | LVDS data             | 1 to 1.4    | —      |
| 22      | N.C      | —   | Non connection        | —           | —      |
| 23      | GND      | —   | GND                   | —           | —      |
| 24      | N.C      | —   | Non connection        | —           | —      |
| 25      | TCLK—    | O   | LVDS data             | 1 to 1.4    | —      |
| 26      | TCLK+    | O   | LVDS data             | 1 to 1.4    | —      |
| 27      | N.C      | —   | Non connection        | —           | —      |
| 28      | GND      | —   | GND                   | —           | —      |
| 29      | N.C      | —   | Non connection        | —           | —      |
| 30      | TD—      | O   | LVDS data             | 1 to 1.4    | —      |
| 31      | TD+      | O   | LVDS data             | 1 to 1.4    | —      |
| 32      | N.C      | —   | Non connection        | —           | —      |
| 33      | GND      | —   | GND                   | —           | —      |
| 34      | GND      | —   | GND                   | —           | —      |
| 35      | V+3V_D   | O   | +3 V power supply     | 3.3         | TP3607 |
| 36      | V+3V_D   | O   | +3 V power supply     | 3.3         | TP3607 |
| 37      | GND      | —   | GND                   | —           | —      |
| 38      | ADRS_3   | O   | Output timing control | 0           | —      |
| 39      | ADRS_2   | O   | Output timing control | 0           | —      |
| 40      | GND      | —   | GND                   | —           | —      |

**42 DIGITAL Assy**  
**CN3502 (D16)**

**42 ADDRESS Assy**  
**CN1501 (AD1)**

| Pin No. | Pin Name | I/O | Function              | Voltage (V) | TP     |
|---------|----------|-----|-----------------------|-------------|--------|
| 1       | N.C      | —   | Non connection        | —           | —      |
| 2       | ADR_PD   | I   | Address PD signal     | 0 to 4      | TP3502 |
| 3       | N.C      | —   | Non connection        | —           | —      |
| 4       | GND      | —   | GND                   | —           | —      |
| 5       | V+8V     | O   | +8 V power supply     | 8           | TP3618 |
| 6       | V+8V     | O   | +8 V power supply     | 8           | TP3618 |
| 7       | GND      | —   | GND                   | —           | —      |
| 8       | GND      | —   | GND                   | —           | —      |
| 9       | N.C      | —   | Non connection        | —           | —      |
| 10      | TA—      | O   | LVDS data             | 1 to 1.4    | —      |
| 11      | TA+      | O   | LVDS data             | 1 to 1.4    | —      |
| 12      | N.C      | —   | Non connection        | —           | —      |
| 13      | GND      | —   | GND                   | —           | —      |
| 14      | N.C      | —   | Non connection        | —           | —      |
| 15      | TB—      | O   | LVDS data             | 1 to 1.4    | —      |
| 16      | TB+      | O   | LVDS data             | 1 to 1.4    | —      |
| 17      | N.C      | —   | Non connection        | —           | —      |
| 18      | GND      | —   | GND                   | —           | —      |
| 19      | N.C      | —   | Non connection        | —           | —      |
| 20      | TC—      | O   | LVDS data             | 1 to 1.4    | —      |
| 21      | TC+      | O   | LVDS data             | 1 to 1.4    | —      |
| 22      | N.C      | —   | Non connection        | —           | —      |
| 23      | GND      | —   | GND                   | —           | —      |
| 24      | N.C      | —   | Non connection        | —           | —      |
| 25      | TCLK—    | O   | LVDS data             | 1 to 1.4    | —      |
| 26      | TCLK+    | O   | LVDS data             | 1 to 1.4    | —      |
| 27      | N.C      | —   | Non connection        | —           | —      |
| 28      | GND      | —   | GND                   | —           | —      |
| 29      | N.C      | —   | Non connection        | —           | —      |
| 30      | TD—      | O   | LVDS data             | 1 to 1.4    | —      |
| 31      | TD+      | O   | LVDS data             | 1 to 1.4    | —      |
| 32      | N.C      | —   | Non connection        | —           | —      |
| 33      | GND      | —   | GND                   | —           | —      |
| 34      | GND      | —   | GND                   | —           | —      |
| 35      | V+3V_D   | O   | +3 V power supply     | 3.3         | TP3607 |
| 36      | V+3V_D   | O   | +3 V power supply     | 3.3         | TP3607 |
| 37      | GND      | —   | GND                   | —           | —      |
| 38      | ADRS_3   | O   | Output timing control | 0           | —      |
| 39      | ADRS_2   | O   | Output timing control | 0           | —      |
| 40      | GND      | —   | GND                   | —           | —      |

**42 DIGITAL Assy** ↔ **42 ADDRESS Assy**  
**CN3503 (D17)** ↔ **CN1501 (AD1)**

| Pin No. | Pin Name | I/O | Function              | Voltage (V) | TP     |
|---------|----------|-----|-----------------------|-------------|--------|
| 1       | N.C      | —   | Non connection        | —           | —      |
| 2       | ADR_PD   | I   | Address PD signal     | 0 to 4      | TP3503 |
| 3       | N.C      | —   | Non connection        | —           | —      |
| 4       | GND      | —   | GND                   | —           | —      |
| 5       | V+8V     | O   | +8 V power supply     | 8           | TP3618 |
| 6       | V+8V     | O   | +8 V power supply     | 8           | TP3618 |
| 7       | GND      | —   | GND                   | —           | —      |
| 8       | GND      | —   | GND                   | —           | —      |
| 9       | N.C      | —   | Non connection        | —           | —      |
| 10      | TA—      | O   | LVDS data             | 1 to 1.4    | —      |
| 11      | TA+      | O   | LVDS data             | 1 to 1.4    | —      |
| 12      | N.C      | —   | Non connection        | —           | —      |
| 13      | GND      | —   | GND                   | —           | —      |
| 14      | N.C      | —   | Non connection        | —           | —      |
| 15      | TB—      | O   | LVDS data             | 1 to 1.4    | —      |
| 16      | TB+      | O   | LVDS data             | 1 to 1.4    | —      |
| 17      | N.C      | —   | Non connection        | —           | —      |
| 18      | GND      | —   | GND                   | —           | —      |
| 19      | N.C      | —   | Non connection        | —           | —      |
| 20      | TC—      | O   | LVDS data             | 1 to 1.4    | —      |
| 21      | TC+      | O   | LVDS data             | 1 to 1.4    | —      |
| 22      | N.C      | —   | Non connection        | —           | —      |
| 23      | GND      | —   | GND                   | —           | —      |
| 24      | N.C      | —   | Non connection        | —           | —      |
| 25      | TCLK—    | O   | LVDS data             | 1 to 1.4    | —      |
| 26      | TCLK+    | O   | LVDS data             | 1 to 1.4    | —      |
| 27      | N.C      | —   | Non connection        | —           | —      |
| 28      | GND      | —   | GND                   | —           | —      |
| 29      | N.C      | —   | Non connection        | —           | —      |
| 30      | TD—      | O   | LVDS data             | 1 to 1.4    | —      |
| 31      | TD+      | O   | LVDS data             | 1 to 1.4    | —      |
| 32      | N.C      | —   | Non connection        | —           | —      |
| 33      | GND      | —   | GND                   | —           | —      |
| 34      | GND      | —   | GND                   | —           | —      |
| 35      | V+3V_D   | O   | +3 V power supply     | 3.3         | TP3607 |
| 36      | V+3V_D   | O   | +3 V power supply     | 3.3         | TP3607 |
| 37      | GND      | —   | GND                   | —           | —      |
| 38      | ADRS_3   | O   | Output timing control | 0           | —      |
| 39      | ADRS_2   | O   | Output timing control | 0           | —      |
| 40      | GND      | —   | GND                   | —           | —      |

**42 DIGITAL Assy** ↔ **42 ADDRESS Assy**  
**CN3504 (D18)** ↔ **CN1501 (AD1)**

| Pin No. | Pin Name | I/O | Function                | Voltage (V) | TP     |
|---------|----------|-----|-------------------------|-------------|--------|
| 1       | N.C      | —   | Non connection          | —           | —      |
| 2       | ADR_PD   | I   | Address PD signal       | 0 to 4      | TP3504 |
| 3       | PSIZE    | I   | Panel size judge signal | 3.3         | —      |
| 4       | GND      | —   | GND                     | —           | —      |
| 5       | V+8V     | O   | +8 V power supply       | 8           | TP3618 |
| 6       | V+8V     | O   | +8 V power supply       | 8           | TP3618 |
| 7       | GND      | —   | GND                     | —           | —      |
| 8       | GND      | —   | GND                     | —           | —      |
| 9       | N.C      | —   | Non connection          | —           | —      |
| 10      | TA—      | O   | LVDS data               | 1 to 1.4    | —      |
| 11      | TA+      | O   | LVDS data               | 1 to 1.4    | —      |
| 12      | N.C      | —   | Non connection          | —           | —      |
| 13      | GND      | —   | GND                     | —           | —      |
| 14      | N.C      | —   | Non connection          | —           | —      |
| 15      | TB—      | O   | LVDS data               | 1 to 1.4    | —      |
| 16      | TB+      | O   | LVDS data               | 1 to 1.4    | —      |
| 17      | N.C      | —   | Non connection          | —           | —      |
| 18      | GND      | —   | GND                     | —           | —      |
| 19      | N.C      | —   | Non connection          | —           | —      |
| 20      | TC—      | O   | LVDS data               | 1 to 1.4    | —      |
| 21      | TC+      | O   | LVDS data               | 1 to 1.4    | —      |
| 22      | N.C      | —   | Non connection          | —           | —      |
| 23      | GND      | —   | GND                     | —           | —      |
| 24      | N.C      | —   | Non connection          | —           | —      |
| 25      | TCLK—    | O   | LVDS data               | 1 to 1.4    | —      |
| 26      | TCLK+    | O   | LVDS data               | 1 to 1.4    | —      |
| 27      | N.C      | —   | Non connection          | —           | —      |
| 28      | GND      | —   | GND                     | —           | —      |
| 29      | N.C      | —   | Non connection          | —           | —      |
| 30      | TD—      | O   | LVDS data               | 1 to 1.4    | —      |
| 31      | TD+      | O   | LVDS data               | 1 to 1.4    | —      |
| 32      | N.C      | —   | Non connection          | —           | —      |
| 33      | GND      | —   | GND                     | —           | —      |
| 34      | GND      | —   | GND                     | —           | —      |
| 35      | V+3V_D   | O   | +3 V power supply       | 3.3         | TP3607 |
| 36      | V+3V_D   | O   | +3 V power supply       | 3.3         | TP3607 |
| 37      | GND      | —   | GND                     | —           | —      |
| 38      | ADRS_3   | O   | Output timing control   | 0           | —      |
| 39      | ADRS_2   | O   | Output timing control   | 0           | —      |
| 40      | GND      | —   | GND                     | —           | —      |

**42 DIGITAL Assy** ↔ **Reserve**  
**CN3002 (D12)** ↔ **(Non connection)**

| Pin No. | Pin Name | I/O | Function                      | Voltage (V) | TP |
|---------|----------|-----|-------------------------------|-------------|----|
| 1       | V+3V_D   | O   | +3.3 V power supply output    | 3.3         | —  |
| 2       | V+3V_D   | O   | +3.3 V power supply output    | 3.3         | —  |
| 3       | V+3V_D   | O   | +3.3 V power supply output    | 3.3         | —  |
| 4       | GND_D    | —   | GND                           | —           | —  |
| 5       | GND_D    | —   | GND                           | —           | —  |
| 6       | GND_D    | —   | GND                           | —           | —  |
| 7       | LED_R    | O   | Red LED control output        | 0 to 3.3    | —  |
| 8       | LED_B    | O   | Blue LED control output       | 0 to 3.3    | —  |
| 9       | MSEL     | I   | Control select                | 0 to 3.3    | —  |
| 10      | PBF      | I   | Panel type judge              | 0 to 3.3    | —  |
| 11      | NC       | I   | Non connection                | —           | —  |
| 12      | YOB10    | I   | Reserve input                 | 0 to 3.3    | —  |
| 13      | YOB11    | I   | Reserve input                 | 0 to 3.3    | —  |
| 14      | YOB12    | I   | Reserve input                 | 0 to 3.3    | —  |
| 15      | YOB13    | I   | Reserve input                 | 0 to 3.3    | —  |
| 16      | YOB14    | I   | Reserve input                 | 0 to 3.3    | —  |
| 17      | NC       | I   | Non connection                | —           | —  |
| 18      | NC       | I   | Non connection                | —           | —  |
| 19      | V+3V_STB | O   | STB 3.3 V power supply output | 3.3         | —  |
| 20      | GND_D    | —   | GND                           | —           | —  |

**42 DIGITAL Assy** ↔ **SENSOR Assy**  
**CN3151 (D24)** ↔ **CN3651 (TE1)**

| Pin No. | Pin Name   | I/O | Function                        | Voltage (V) | TP |
|---------|------------|-----|---------------------------------|-------------|----|
| 1       | V+3.3V_EEP | O   | Power supply output for memory  | 3.3         | —  |
| 2       | E_SCL      | O   | IIC communication clock signal  | 0 to 3.3    | —  |
| 3       | E_SDA      | O   | IIC communication data signal   | 0 to 3.3    | —  |
| 4       | TEMP1      | I   | Panel temperature sensor signal | 0 to 3.3    | —  |
| 5       | GND        | —   | GND                             | —           | —  |

**42 DIGITAL Assy** ↔ **POWER SUPPLY Unit**  
**CN3601 (D21)** ↔ **(P4)**

| Pin No. | Pin Name   | I/O | Function                                 | Voltage (V) | TP |
|---------|------------|-----|------------------------------------------|-------------|----|
| 1       | V+12V      | I   | +12 V power supply input                 | 12          | —  |
| 2       | V+12V      | I   | +12 V power supply input                 | 12          | —  |
| 3       | GND        | —   | GND                                      | —           | —  |
| 4       | GND        | —   | GND                                      | —           | —  |
| 5       | V+3.3V_STB | I   | STB3.3 V power supply input              | 0 to 3.3    | —  |
| 6       | GND        | —   | GND                                      | —           | —  |
| 7       | M_SW_DET   | I   | Mechanism switch detection signal input  | 0 to 3.3    | —  |
| 8       | EXT_PD     | O   | Power down signal                        | 0 to 3.3    | —  |
| 9       | VSUS_ADJ   | O   | VSUS power supply adjustment signal      | 0 to 3.3    | —  |
| 10      | PS_PD      | I   | Power supply PD signal                   | 0 to 3.3    | —  |
| 11      | RELAY      | O   | Relay control                            | 0 to 3.3    | —  |
| 12      | DRF_B      | O   | Large power supply ON/OFF control signal | 0 to 3.3    | —  |
| 13      | AC_DET     | I   | AC power supply state input              | 0 to 3.3    | —  |
| 14      | PD_TRG_B   | I   | Power down trigger signal                | 0 to 3.3    | —  |

## Pin Function

42E AUDIO Assy ↔ MAIN Assy  
CN3752 (A2) ↔ CN4007 (M9)

| Pin No. | Pin Name | I/O | Function                                          | Remarks                  |
|---------|----------|-----|---------------------------------------------------|--------------------------|
| 1       | A_NG_B   | O   | DC detection, disconnection of cable detection    | L : Abnormal, H : Normal |
| 2       | GND      | —   | GND for small signal                              | —                        |
| 3       | AUDIO_L  | I   | Small signal L ch                                 | —                        |
| 4       | GND      | —   | GND for small signal                              | —                        |
| 5       | AUDIO_R  | I   | Small signal R ch                                 | —                        |
| 6       | GND      | —   | GND for small signal                              | —                        |
| 7       | A_STBY_B | I   | MUTE ON/OFF signal for LA4625 IC internal circuit | L : Standby, H : ON      |
| 8       | A_MUTE   | I   | MUTE ON/OFF signal for LA4625 IC external circuit | L : MUTE OFF, H : MUTE   |
| 9       | SCL_AU   | I   | CLK of I2C for NJW1183GK1 IC                      | —                        |
| 10      | SDA_AU   | I/O | DATA of I2C for NJW1183GK1 IC                     | —                        |
| 11      | PSW_A    | I   | ON/OFF switch for 12 V regulator IC               | L : OFF, H : ON          |

42E AUDIO Assy ↔ POWER SUPPLY Unit  
CN3751 (A1) ↔ (P5)

| Pin No. | Pin Name | I/O | Function                            | Remarks |
|---------|----------|-----|-------------------------------------|---------|
| 1       | +16.5V   | —   | Power supply (16.5 V) for LA4625 IC | —       |
| 2       | GND_D    | —   | Return GND for LA4625 IC            | —       |
| 3       | GND_D    | —   | Return GND for LA4625 IC            | —       |

42E AUDIO Assy ↔ Speaker  
CN3753 (A3)

| Pin No. | Pin Name | I/O | Function                             | Remarks |
|---------|----------|-----|--------------------------------------|---------|
| 1       | RH+      | O   | Tweeter output R+                    | —       |
| 2       | RL+      | O   | Woofer output R+ (Speaker output R+) | —       |
| 3       | RH-      | O   | Tweeter output R-                    | —       |
| 4       | RL-      | O   | Woofer output R- (Speaker output R-) | —       |
| 5       | LL+      | O   | Woofer output L+ (Speaker output L+) | —       |
| 6       | LH+      | O   | Tweeter output L+                    | —       |
| 7       | LL-      | O   | Woofer output L- (Speaker output L-) | —       |
| 8       | LH-      | O   | Tweeter output L-                    | —       |

SIDE KEY Assy ↔ MAIN Assy  
CN9501 (SW1) ↔ CN4010 (M8)

| Pin No. | Pin Name   | I/O | Function                   | Remarks |
|---------|------------|-----|----------------------------|---------|
| 1       | GND        | —   | GND                        | —       |
| 2       | KEY_AD2    | O   | KEY voltage 2              | —       |
| 3       | KEY_AD1    | O   | KEY voltage 1              | —       |
| 4       | V+3.3V_STB | —   | Standby 3.3 V power supply | —       |

42 & 60 LED Assy ↔ MAIN Assy  
CN9601 (L1) ↔ CN4006 (M5)

| Pin No. | Pin Name | I/O | Function                 | Remarks                 |
|---------|----------|-----|--------------------------|-------------------------|
| 1       | LED-     | —   | LED signal return        | —                       |
| 2       | LED_ON   | I   | LED control for power ON | H : LED_ON, L : LED_OFF |
| 3       | LED_OFF  | I   | LED control for standby  | H : LED_ON, L : LED_OFF |
| 4       | LED_REC  | I   | LED control for REC      | H : LED_ON, L : LED_OFF |
| 5       | LED_MDM  | I   | —                        | —                       |
| 6       | LED-     | —   | LED signal return        | —                       |

LED IR Assy ↔ MAIN Assy  
CN9701 (RE1) ↔ CN4010 (M8)

| Pin No. | Pin Name   | I/O | Function                   | Remarks                 |
|---------|------------|-----|----------------------------|-------------------------|
| 1       | V+5.1V_STB | —   | Standby 5.1 V power supply | —                       |
| 2       | REM        | O   | Remote control signal      | —                       |
| 3       | LED-       | —   | LED signal return          | —                       |
| 4       | LED_REC    | I   | LED control for REC        | H : LED_ON, L : LED_OFF |
| 5       | LED_MDM    | I   | —                          | —                       |
| 6       | GND        | —   | GND                        | —                       |

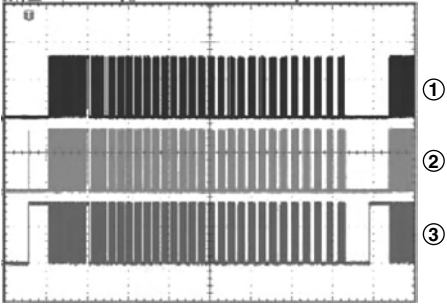
1 2 3 4

# 4.18 WAVEFORMS

## 42 ADDRESS Assy

A

Control signals of resonance circuit (1 field)

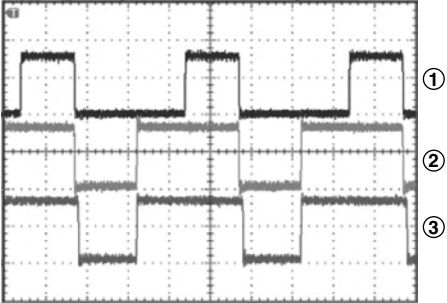


Input: VIDEO 60Hz  
Signal: COLOR BAR (MKSS17)

- ① CH1: ADR\_B (side-A test plane "B")  
V: 2 V/div H: 2 mS/div
- ② CH2: ADR\_U (side-A test plane "U")  
V: 2 V/div H: 2 mS/div
- ③ CH3: ADR\_D (side-A test plane "D")  
V: 2 V/div H: 2 mS/div

B

Control signals of resonance circuit (resonance part)

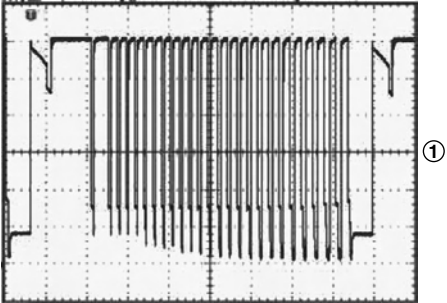


Input: VIDEO 60Hz  
Signal: COLOR BAR (MKSS17)

- ① CH1: ADR\_B (side-A test plane "B")  
V: 2 V/div H: 200 nS/div
- ② CH2: ADR\_U (side-A test plane "U")  
V: 2 V/div H: 200 nS/div
- ③ CH3: ADR\_D (side-A test plane "D")  
V: 2 V/div H: 200 nS/div

C

VADR (1 field)

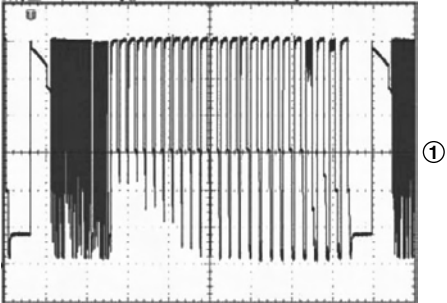


Input: VIDEO 60Hz  
Signal: COLOR BAR (MKSS17)

- ① CH1: IC1555 - pin 3 (VDD2) (side-A through hole)  
V: 10 V/div H: 2 mS/div

D

VADR (1 field)

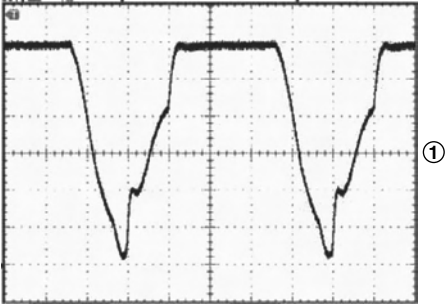


Input: VIDEO 60Hz  
Signal: Checkered pattern of Black-White (MKSS13)

- ① CH1: IC1555 - pin 3 (VDD2) (side-A through hole)  
V: 10 V/div H: 2 mS/div

E

VADR (resonance part)

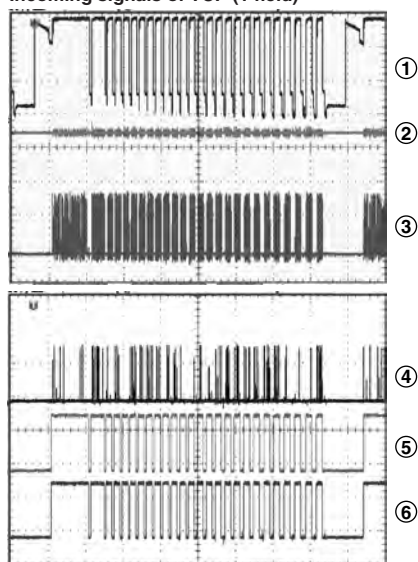


Input: VIDEO 60Hz  
Signal: Checkered pattern of Black-White (MKSS13)

- ① CH1: IC1555 - pin 3 (VDD2) (side-A through hole)  
V: 10 V/div H: 200 nS/div

F

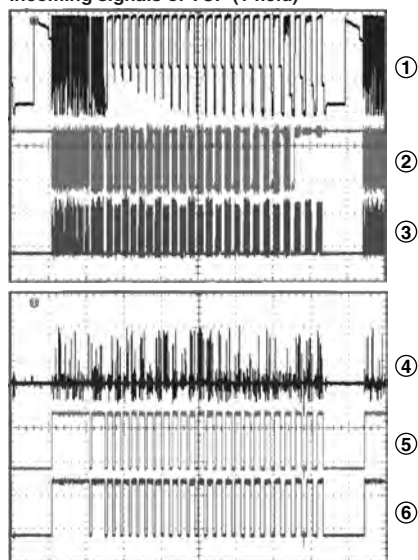
## Incoming signals of TCP (1 field)



**Input:** VIDEO 60Hz  
**Signal:** COLOR BAR (MKSS17)

- ① CH1: IC1555 - pin 3 (VDD2) (side-A through hole)  
V: 20 V/div H: 2 mS/div
- ② CH2: IC1555 - pin 9 (A3) (side-A test plane "R\_E")  
V: 2 V/div H: 2 mS/div
- ③ CH3: IC1555 - pin 16 (CLK) (side-A test plane "CLK1")  
V: 2 V/div H: 2 mS/div
- ④ CH1: IC1555 - pin 14 (LE) (side-A test plane "LE\_E")  
V: 2 V/div H: 2 mS/div
- ⑤ CH2: IC1555 - pin 19 (HBLK) (side-A test plane "HBLK")  
V: 2 V/div H: 2 mS/div
- ⑥ CH3: IC1555 - pin 17 (LBLK) (side-A test plane "LBLK")  
V: 2 V/div H: 2 mS/div

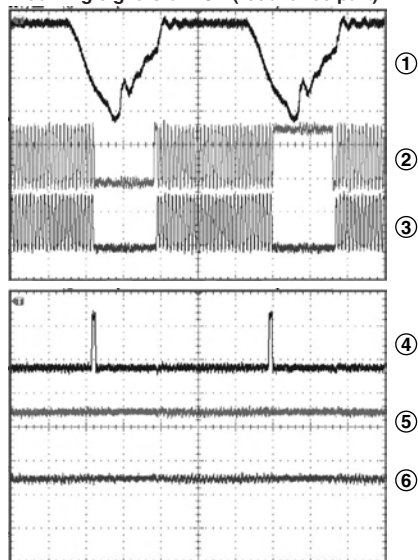
## Incoming signals of TCP (1 field)



**Input:** VIDEO 60Hz  
**Signal:** Checkered pattern of Black-White (MKSS13)

- ① CH1: IC1555 - pin 3 (VDD2) (side-A through hole)  
V: 20 V/div H: 2 mS/div
- ② CH2: IC1555 - pin 9 (A3) (side-A test plane "R\_E")  
V: 2 V/div H: 2 mS/div
- ③ CH3: IC1555 - pin 16 (CLK) (side-A test plane "CLK1")  
V: 2 V/div H: 2 mS/div
- ④ CH1: IC1555 - pin 14 (LE) (side-A test plane "LE\_E")  
V: 2 V/div H: 2 mS/div
- ⑤ CH2: IC1555 - pin 19 (HBLK) (side-A test plane "HBLK")  
V: 2 V/div H: 2 mS/div
- ⑥ CH3: IC1555 - pin 17 (LBLK) (side-A test plane "LBLK")  
V: 2 V/div H: 2 mS/div

## Incoming signals of TCP (resonance part)



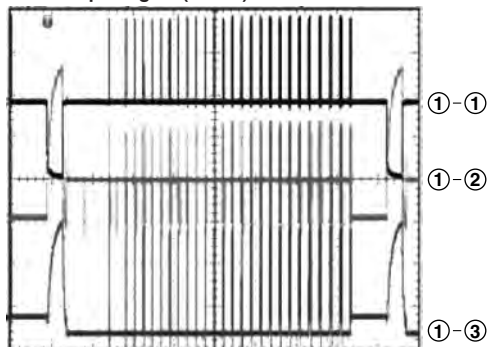
**Input:** VIDEO 60Hz  
**Signal:** Checkered pattern of Black-White (MKSS13)

- ① CH1: IC1555 - pin 3 (VDD2) (side-A through hole)  
V: 20 V/div H: 200 nS/div
- ② CH2: IC1555 - pin 9 (A3) (side-A test plane "R\_E")  
V: 2 V/div H: 200 nS/div
- ③ CH3: IC1555 - pin 16 (CLK) (side-A test plane "CLK1")  
V: 2 V/div H: 200 nS/div
- ④ CH1: IC1555 - pin 14 (LE) (side-A test plane "LE\_E")  
V: 2 V/div H: 200 nS/div
- ⑤ CH2: IC1555 - pin 19 (HBLK) (side-A test plane "HBLK")  
V: 2 V/div H: 200 nS/div
- ⑥ CH3: IC1555 - pin 17 (LBLK) (side-A test plane "LBLK")  
V: 2 V/div H: 200 nS/div

# 42 X DRIVE Assy, 42 Y DRIVE Assy, 42 SCAN A Assy, 42 SCAN B Assy

A

Drive output signal (1 field)



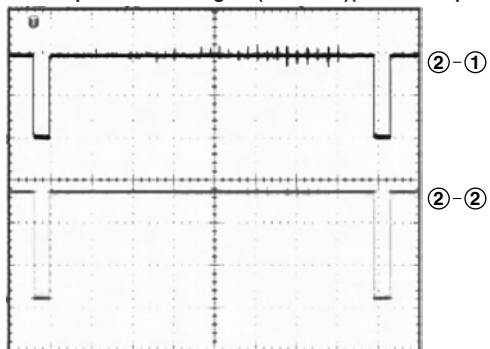
Input: VIDEO 60Hz

Signal: COLOR BAR (MKSS17)

- ① CH1: R1277 (XPSUS) ↔ K1203 (SUSGND)  
V: 100 V/div H: 2 mS/div  
(42 X DRIVE Assy)
- ② CH2: K2701 (SCANOUT) ↔ K2330 (SUSGND)  
V: 100 V/div H: 2 mS/div  
(42 Y DRIVE Assy)
- ③ CH3: F2301 (YPSUS) ↔ K2330 (SUSGND)  
V: 100 V/div H: 2 mS/div  
(42 Y DRIVE Assy)

B

X drive pulse control signal (color-bar)(resonance part)



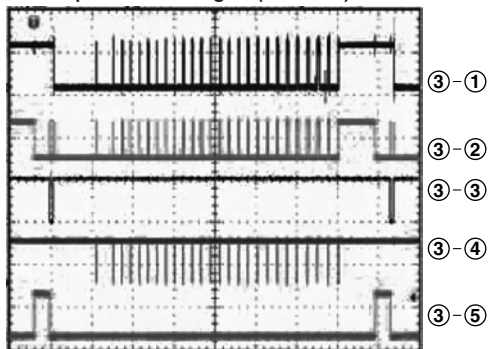
Input: VIDEO 60Hz

Signal: COLOR BAR (MKSS17)

- ① CH1: K1009 (XSUS-MSK) ↔ K1002 (DGND)  
V: 2 V/div H: 2 mS/div  
(42 X DRIVE Assy)
- ② CH2: K1005 (XNR-D) ↔ K1002 (DGND)  
V: 2 V/div H: 2 mS/div  
(42 X DRIVE Assy)

C

Y drive pulse control signal (color-bar)



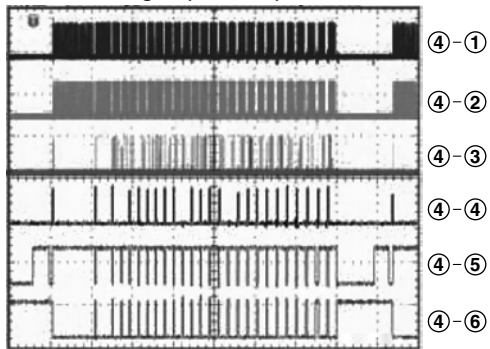
Input: VIDEO 60Hz

Signal: COLOR BAR (MKSS17)

- ① CH1: K2007 (YNOFS) ↔ K2002 (GND\_D)  
V: 5 V/div H: 2 mS/div  
(42 Y DRIVE Assy)
- ② CH2: K2005 (YSUS-MSK) ↔ K2002 (GND\_D)  
V: 5 V/div H: 2 mS/div  
(42 Y DRIVE Assy)
- ③ Ref3: K2008 (YNRST) ↔ K2002 (GND\_D)  
V: 5 V/div H: 2 mS/div  
(42 Y DRIVE Assy)
- ④ CH3: K2006 (SOFT\_D) ↔ K2002 (GND\_D)  
V: 5 V/div H: 2 mS/div  
(42 Y DRIVE Assy)
- ⑤ CH4: K2023 (YRP\_U) ↔ K2002 (GND\_D)  
V: 5 V/div H: 2 mS/div  
(42 Y DRIVE Assy)

D

Scan control signal (Color-bar)



Input: VIDEO 60Hz

Signal: COLOR BAR (MKSS17)

- ① CH1: TP2001 (LE) ↔ K2002 (GND\_D)  
V: 5 V/div H: 2 mS/div  
(42 Y DRIVE Assy)
- ② CH2: TP2008 (CLK) ↔ K2002 (GND\_D)  
V: 5 V/div H: 2 mS/div  
(42 Y DRIVE Assy)
- ③ CH3: TP2003 (Si-H) ↔ K2002 (GND\_D)  
V: 5 V/div H: 2 mS/div  
(42 Y DRIVE Assy)
- ④ Ref1: TP2004 (CLR) ↔ K2002 (GND\_D)  
V: 5 V/div H: 2 mS/div  
(42 Y DRIVE Assy)
- ⑤ Ref2: TP2005 (OC2) ↔ K2002 (GND\_D)  
V: 5 V/div H: 2 mS/div  
(42 Y DRIVE Assy)
- ⑥ Ref3: TP2006 (OC1) ↔ K2002 (GND\_D)  
V: 5 V/div H: 2 mS/div  
(42 Y DRIVE Assy)

F

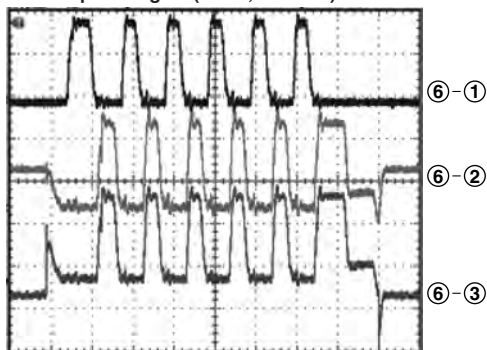
Reset pulse signal



Input: VIDEO 60Hz  
Signal: COLOR BAR (MKSS17)

- ① CH1: R1277 (XPSUS) ↔ K1203 (SUSGND)  
V: 100 V/div H: 200  $\mu$ S/div  
(42 X DRIVE Assy)
- ② CH2: K2701 (SCANOUT) ↔ K2330 (SUSGND)  
V: 100 V/div H: 200  $\mu$ S/div  
(42 Y DRIVE Assy)
- ③ CH3: F2301 (YPSUS) ↔ K2330 (SUSGND)  
V: 100 V/div H: 200  $\mu$ S/div  
(42 Y DRIVE Assy)

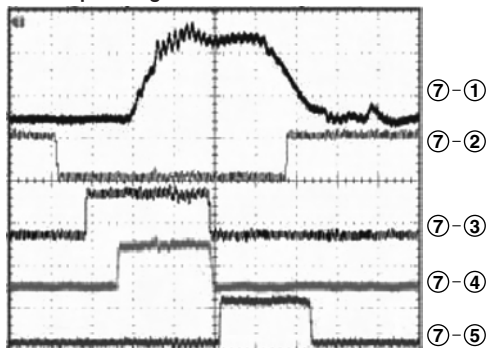
Sustain pulse signal (1 sub, subfield)



Input: VIDEO 60Hz  
Signal: COLOR BAR (MKSS17)

- ① CH1: R1277 (XPSUS) ↔ K1203 (SUSGND)  
V: 100 V/div H: 4  $\mu$ S/div  
(42 X DRIVE Assy)
- ② CH2: K2701 (SCANOUT) ↔ K2330 (SUSGND)  
V: 100 V/div H: 4  $\mu$ S/div  
(42 Y DRIVE Assy)
- ③ CH3: F2301 (YPSUS) ↔ K2330 (SUSGND)  
V: 100 V/div H: 4  $\mu$ S/div  
(42 Y DRIVE Assy)

Sustain pulse signal



Input: VIDEO 60Hz  
Signal: COLOR BAR (MKSS17)

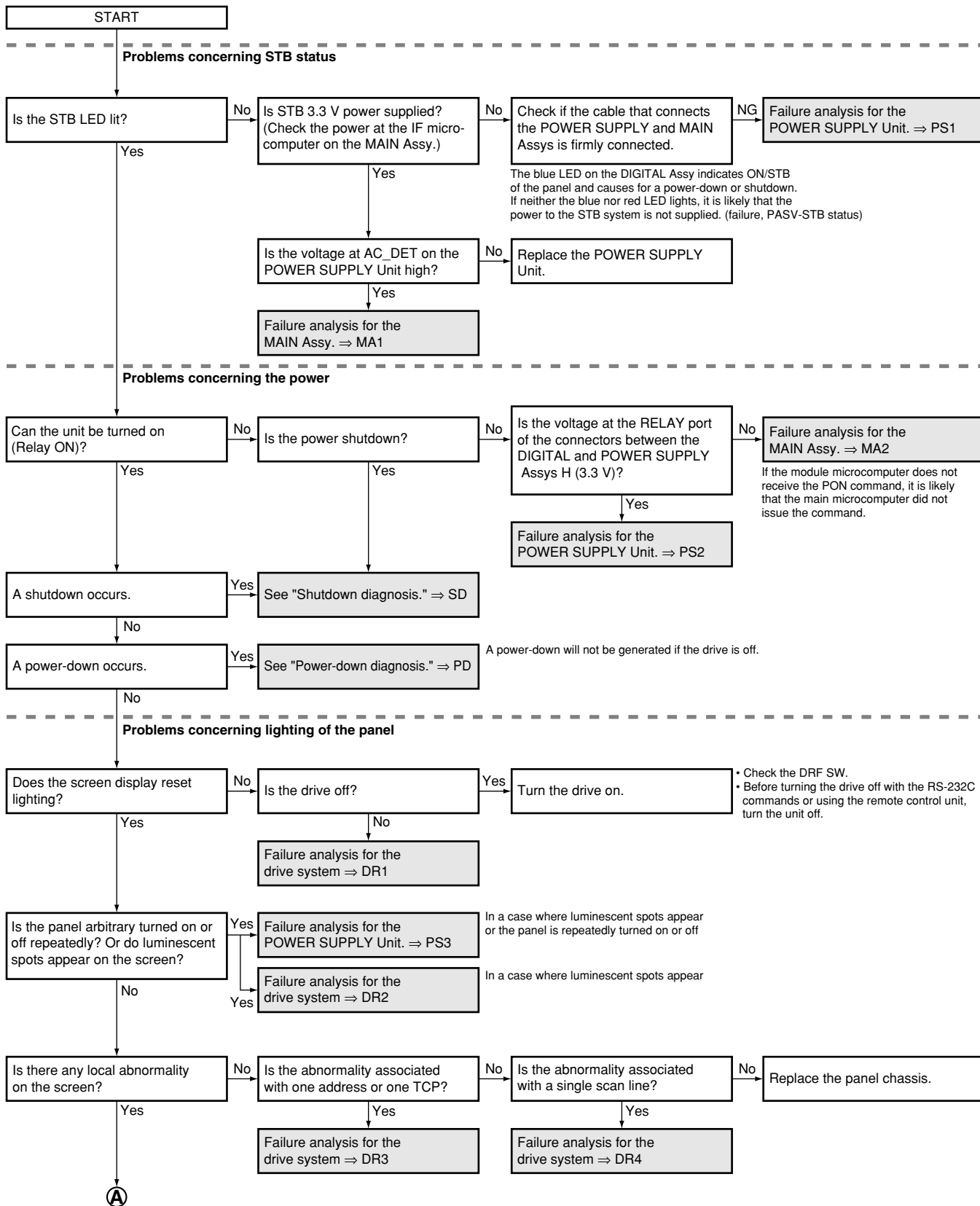
- ① CH1: F2301 (YPSUS) ↔ K2330 (SUSGND)  
V: 100 V/div H: 400 nS/div  
(42 Y DRIVE Assy)
- ② Ref3: K2004 (YSUS-G) ↔ K2002 (GND\_D)  
V: 5 V/div H: 400 nS/div  
(42 Y DRIVE Assy)
- ③ Ref2: K2011 (YSUS-U) ↔ K2002 (GND\_D)  
V: 5 V/div H: 400 nS/div  
(42 Y DRIVE Assy)
- ④ CH2: K2009 (YSUS-B) ↔ K2002 (GND\_D)  
V: 5 V/div H: 400 nS/div  
(42 Y DRIVE Assy)
- ⑤ CH3: K2010 (YSUS-D) ↔ K2002 (GND\_D)  
V: 5 V/div H: 400 nS/div  
(42 Y DRIVE Assy)

# 5. DIAGNOSIS

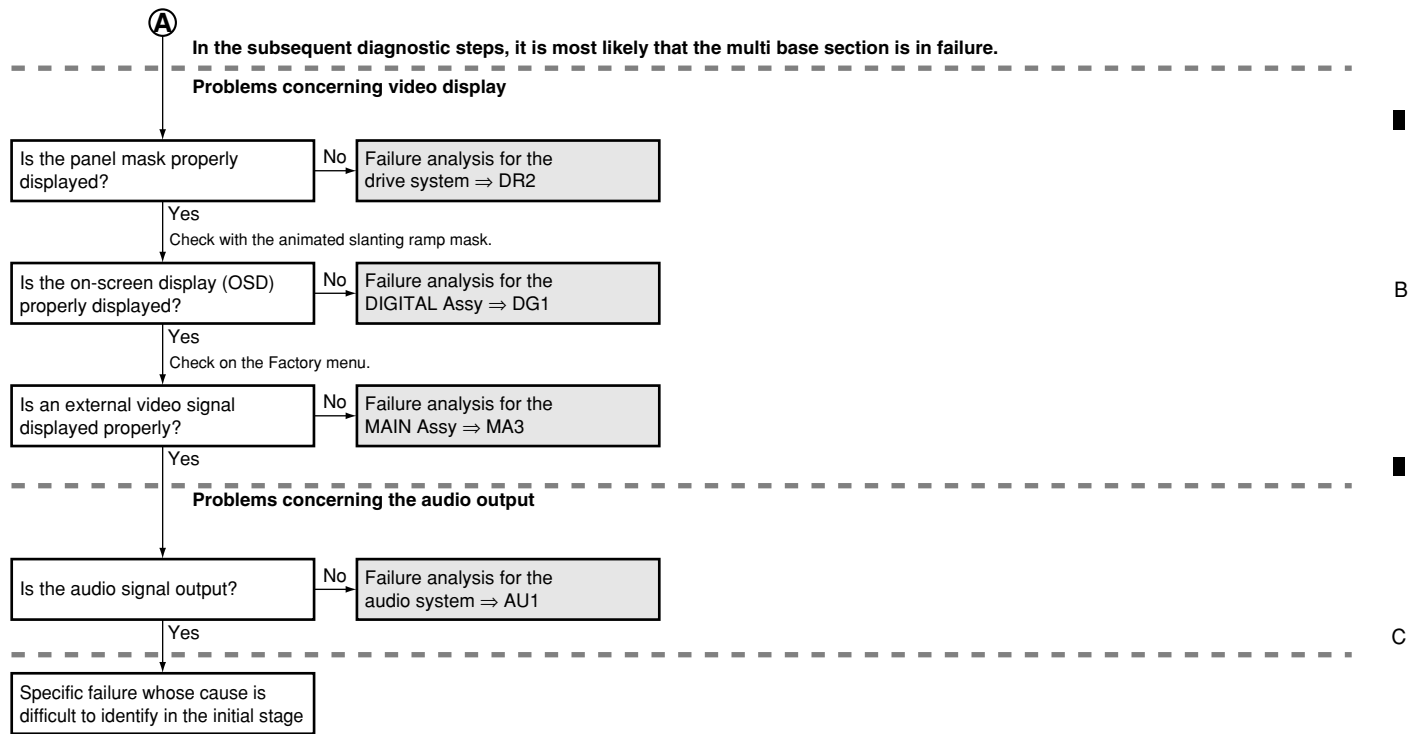
## 5.1 TROUBLE SHOOTING

### 5.1.1 FLOWCHART OF FAILURE ANALYSIS FOR THE WHOLE UNIT

Flowchart of Failure Analysis for The Whole Unit



## Flowchart of Failure Analysis for The Whole Unit



## 5.1.2 FLOWCHART OF FAILURE ANALYSIS FOR THE POWER SUPPLY UNIT

### Flowchart of Failure Analysis for The POWER SUPPLY Unit

Failure analysis for the  
POWER SUPPLY Unit. ⇒ PS1

STB 3.3 V power is not output.

Is the cable connected firmly to  
the P8 connector?

No

Properly connect the cable  
between the P8 and M1 connectors.

Yes

Is the cable to the P8 connector  
broken?

Yes

Replace the defective cable (J105).

Check the voltage at the DIGITAL Assy and  
POWER SUPPLY Unit.

No

Is the fuse (F101) blown?

No

Replace the POWER SUPPLY  
Unit.

Yes

Is one of the limiting resistors  
(R104/R105) blown?

No

Replace the POWER SUPPLY  
Unit.

Check the resistance between L102 (lead  
nearest R104) and the D121 anode,  
using a tester.

Yes

The POWER SUPPLY Unit is  
normal.

Failure analysis for the  
POWER SUPPLY Unit. ⇒ PS2

The power is not on, even though  
the RELAY port is active.

Is the relay (RL102) on?

No

Replace the POWER SUPPLY  
Unit.

- Check the relay operation at the terminal  
(Pin 11 of P4). (Voltage: 3.3 V)
- Check the relay sound (click).

Yes

Is the PFC voltage normal?

No

Replace the POWER SUPPLY  
Unit.

- Check the voltage between the D204  
cathode and RC101 (negative) terminal.
- The voltage must be around 390 V  
(failure if it is 340 V or less).

**Caution:** High voltage!

Yes

The POWER SUPPLY Unit is  
normal.

Failure analysis for the  
POWER SUPPLY Unit. ⇒ PS3

The cells of the panel do not  
light normally.

Is the VADR voltage within the  
specified values?

No

Replace the POWER SUPPLY  
Unit.

The specified voltage values are between  
57 and 63 V.

Yes

Is there a fluctuation in the  
VADR voltage?

Yes

Replace the POWER SUPPLY  
Unit.

The ripple must be within 5 V.

No

Is the VSUS voltage within the  
specified range?

No

Replace the POWER SUPPLY  
Unit.

The specified voltage values are between  
200 and 210 V (VSU: 125/35°C).

Yes

Is there a fluctuation in the  
VSUS voltage?

Yes

Replace the POWER SUPPLY  
Unit.

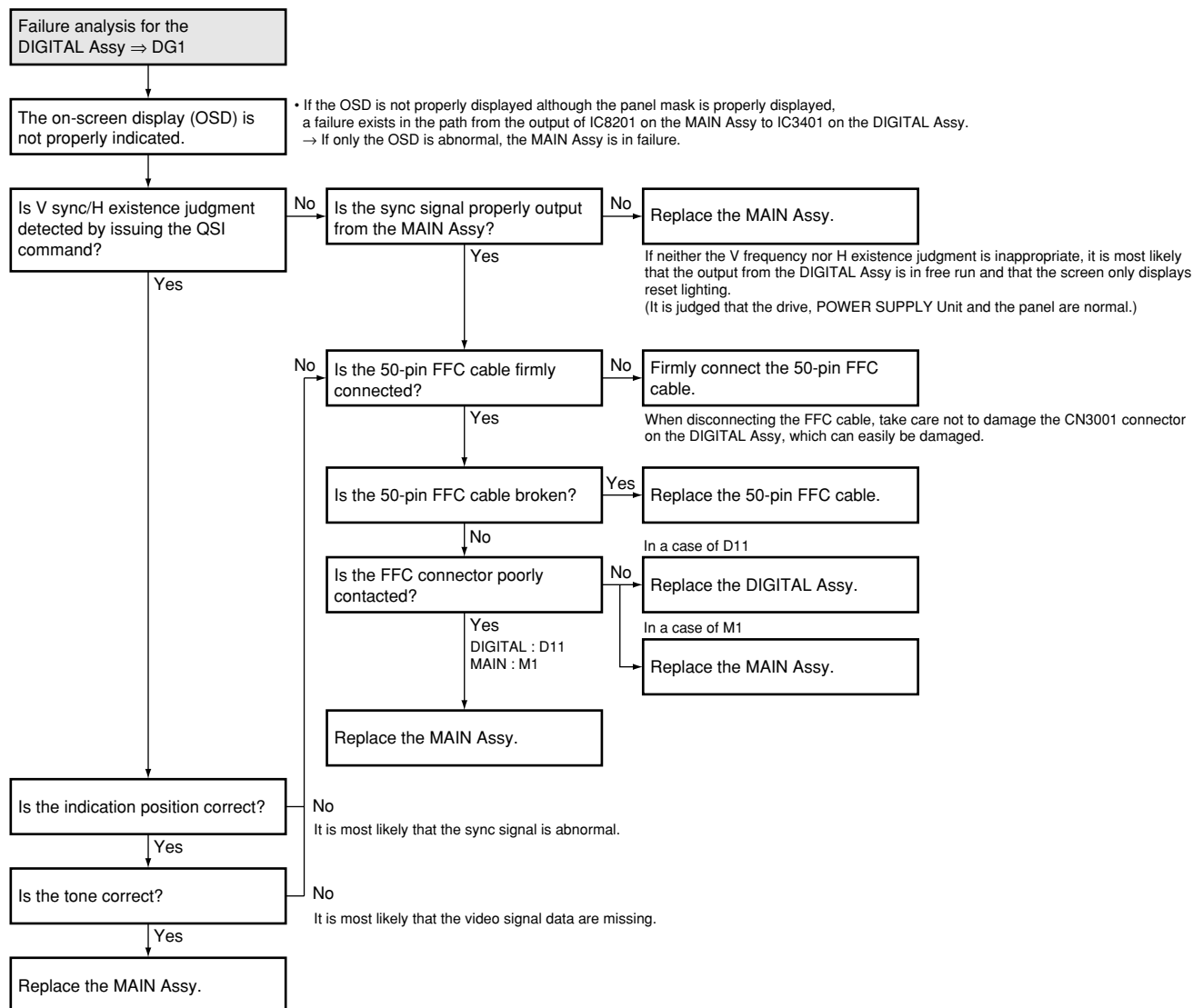
The ripple must be within 10 V.

No

The POWER SUPPLY Unit is  
normal.

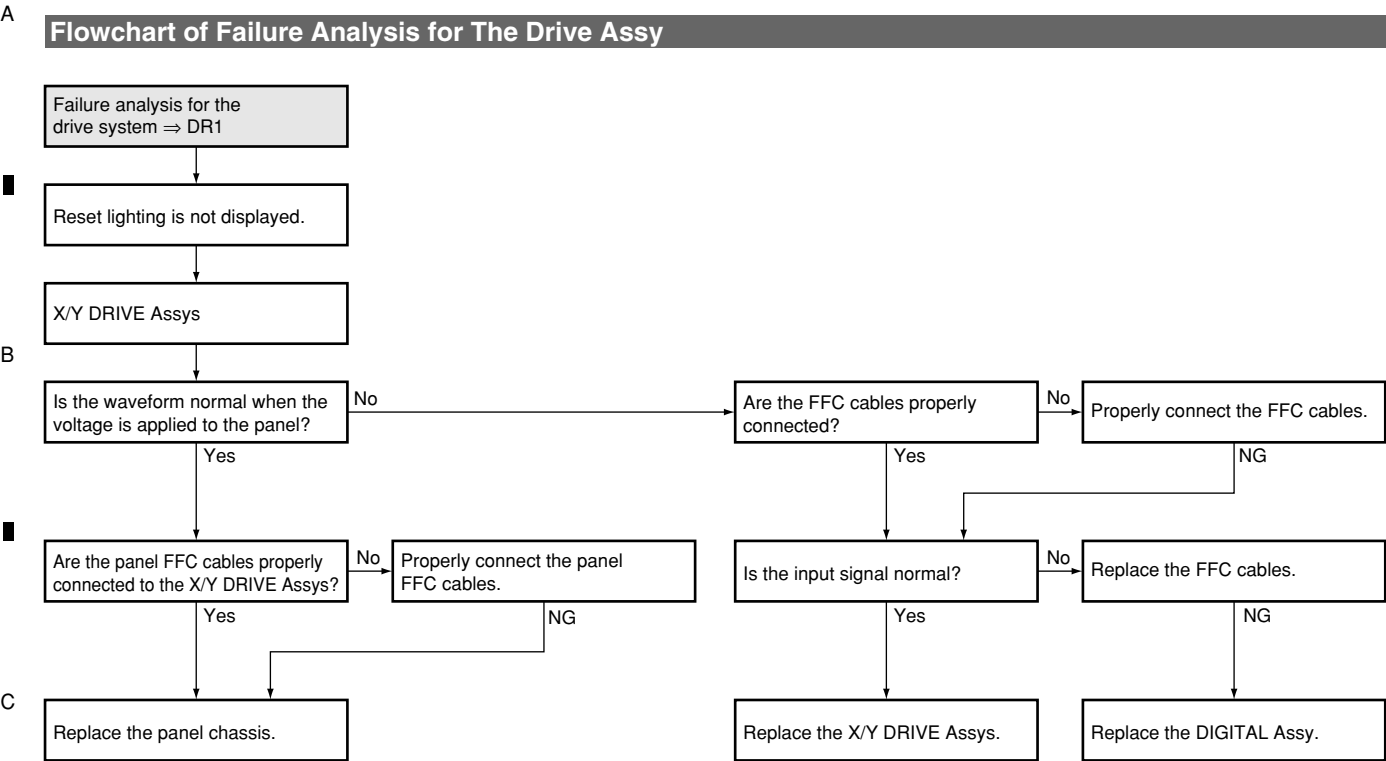
### 5.1.3 FLOWCHART OF FAILURE ANALYSIS FOR THE DIGITAL ASSY

#### Flowchart of Failure Analysis for The DIGITAL Assy

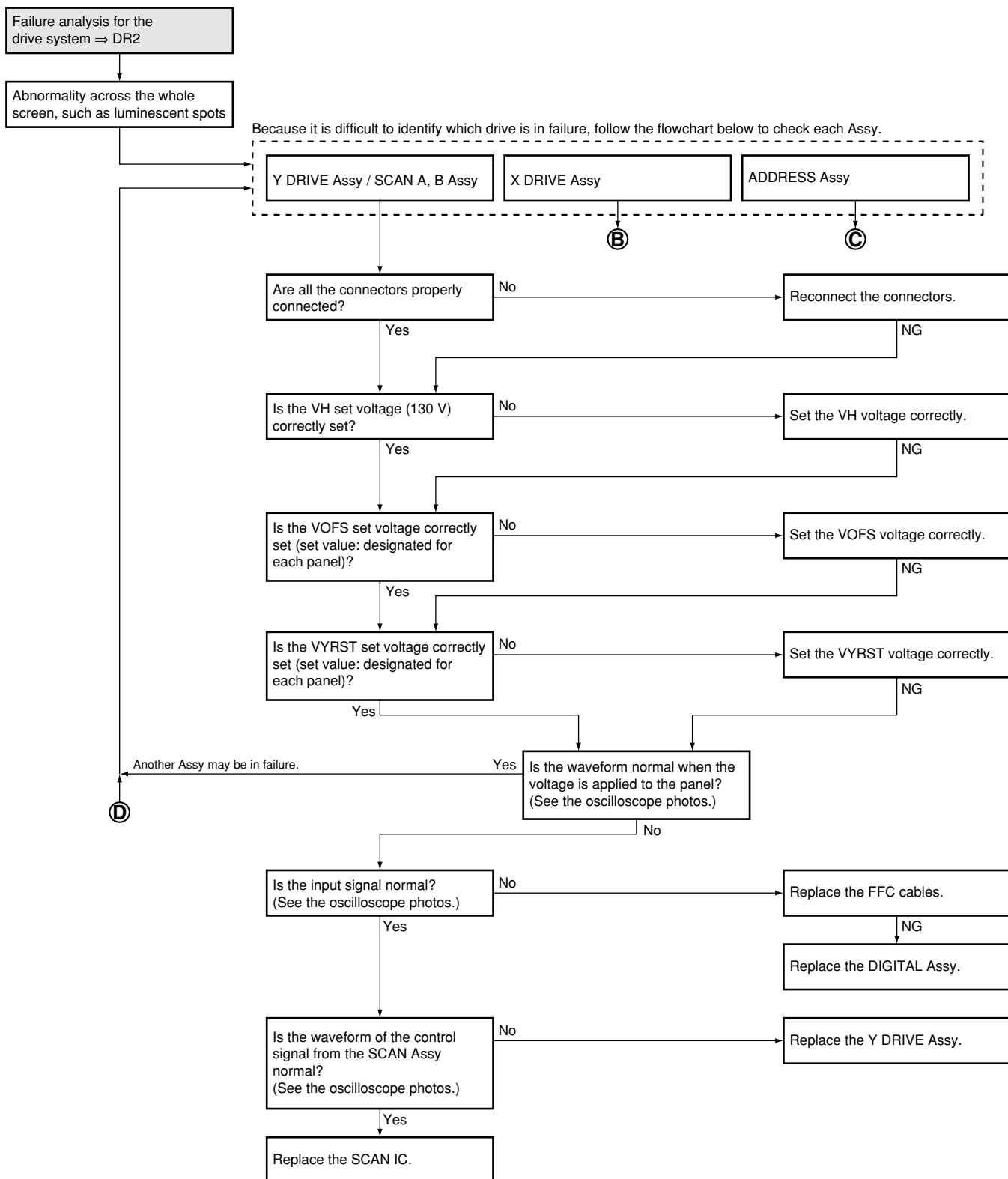


1234

5.1.4 FLOWCHART OF FAILURE ANALYSIS FOR THE DRIVE ASSY



## Flowchart of Failure Analysis for The Drive Assy



A

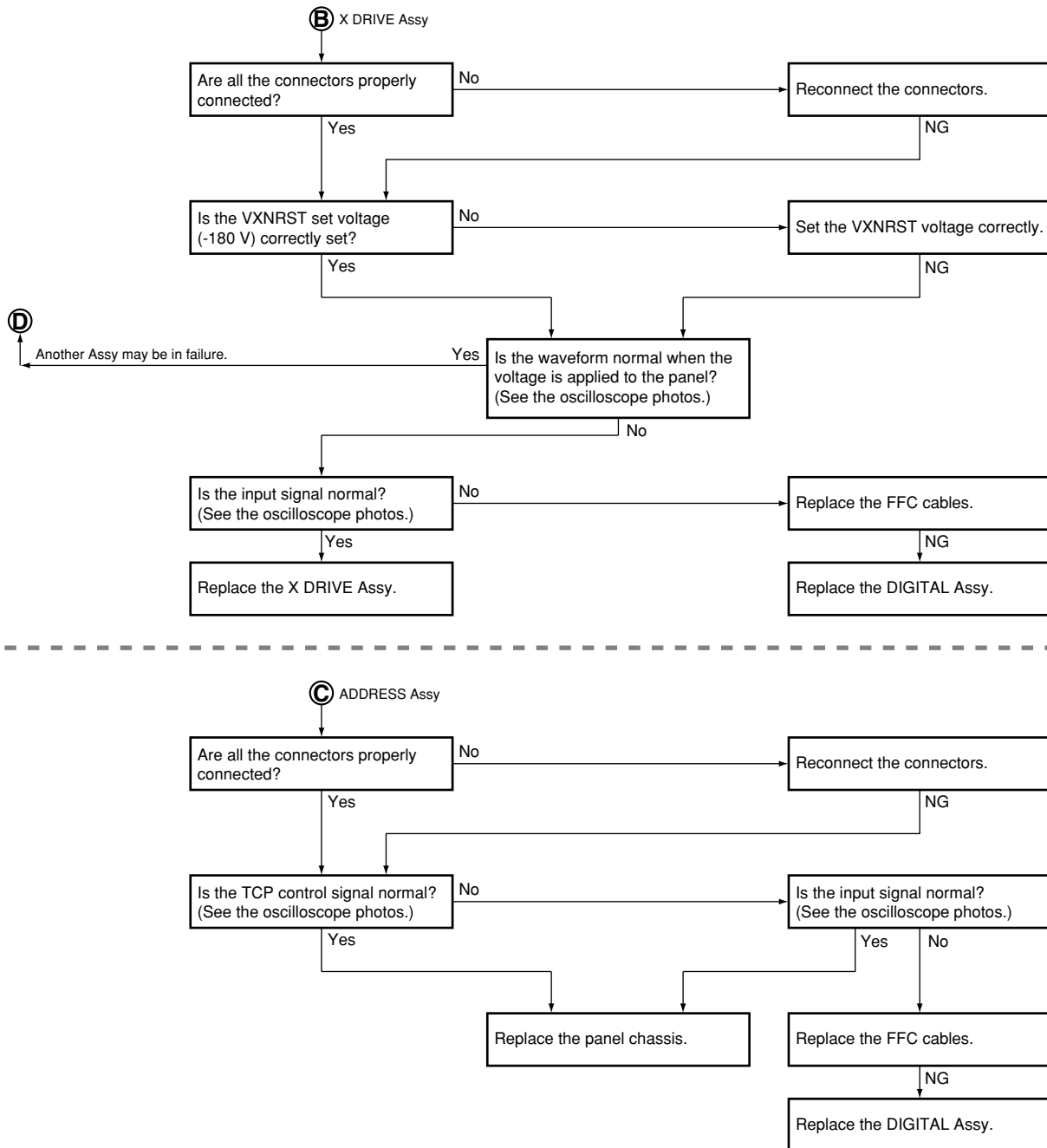
B

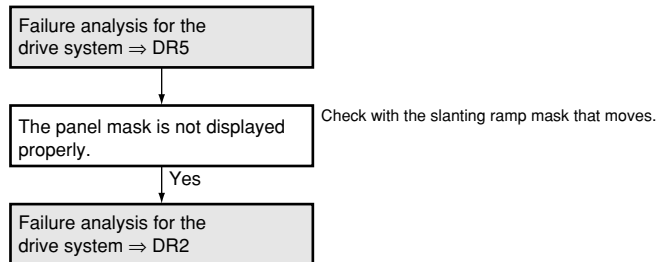
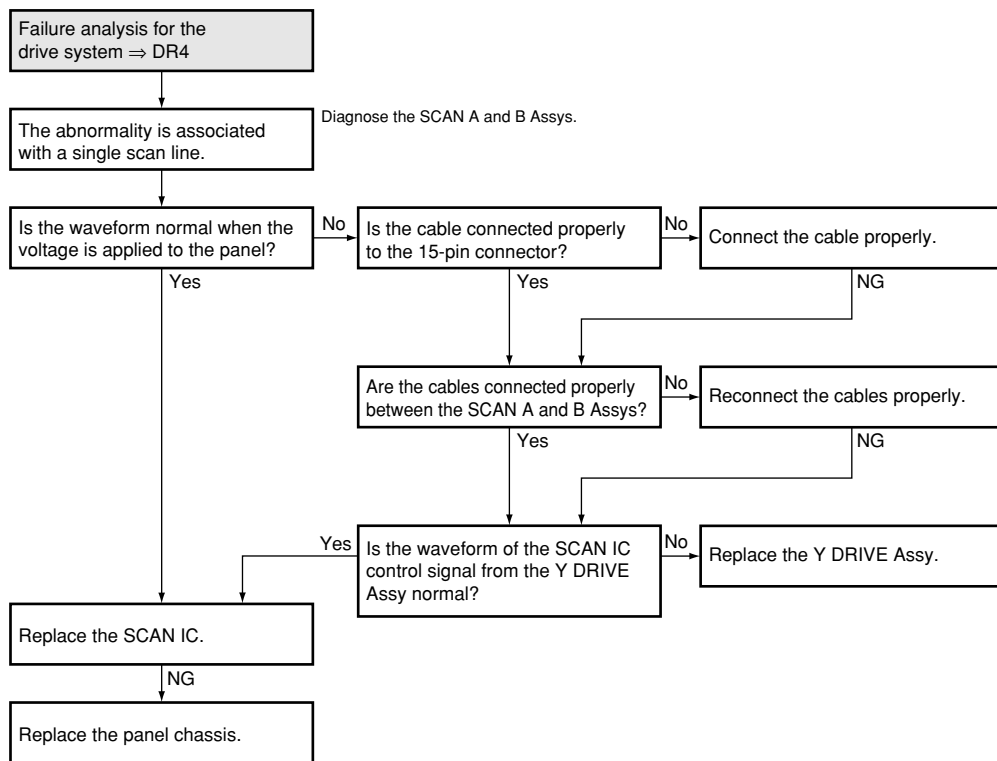
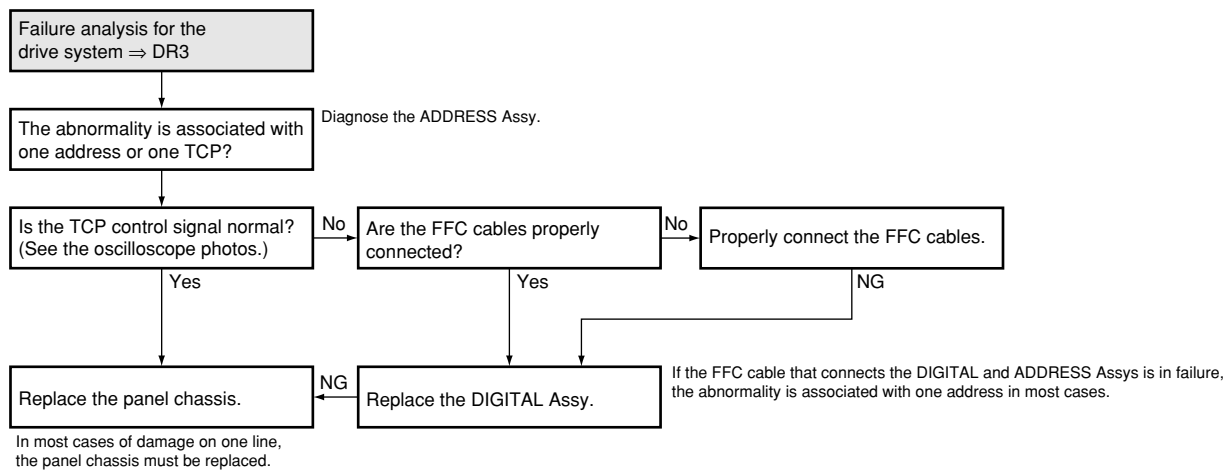
C

D

E

F

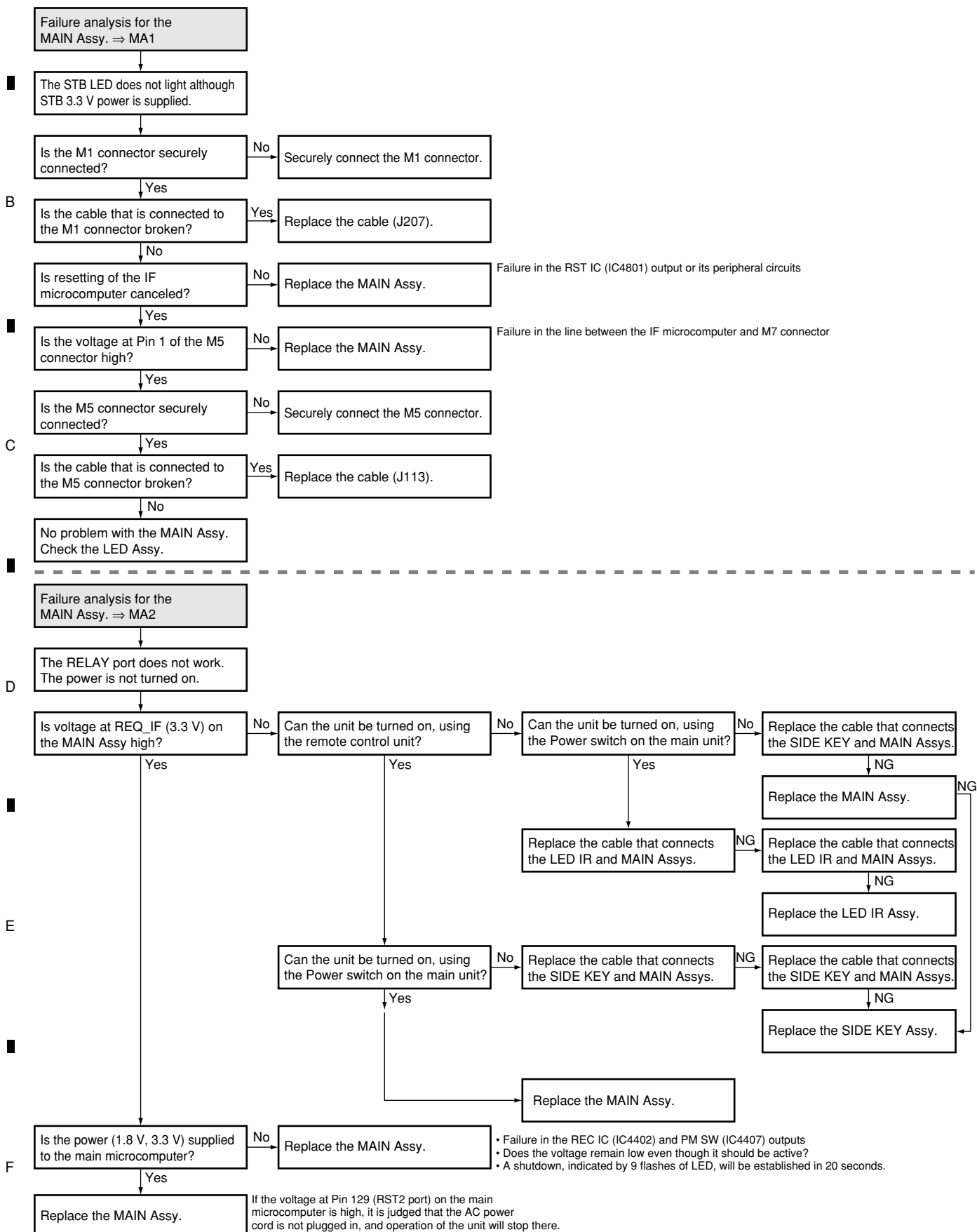




## 5.1.5 FLOWCHART OF FAILURE ANALYSIS FOR THE MAIN ASSY

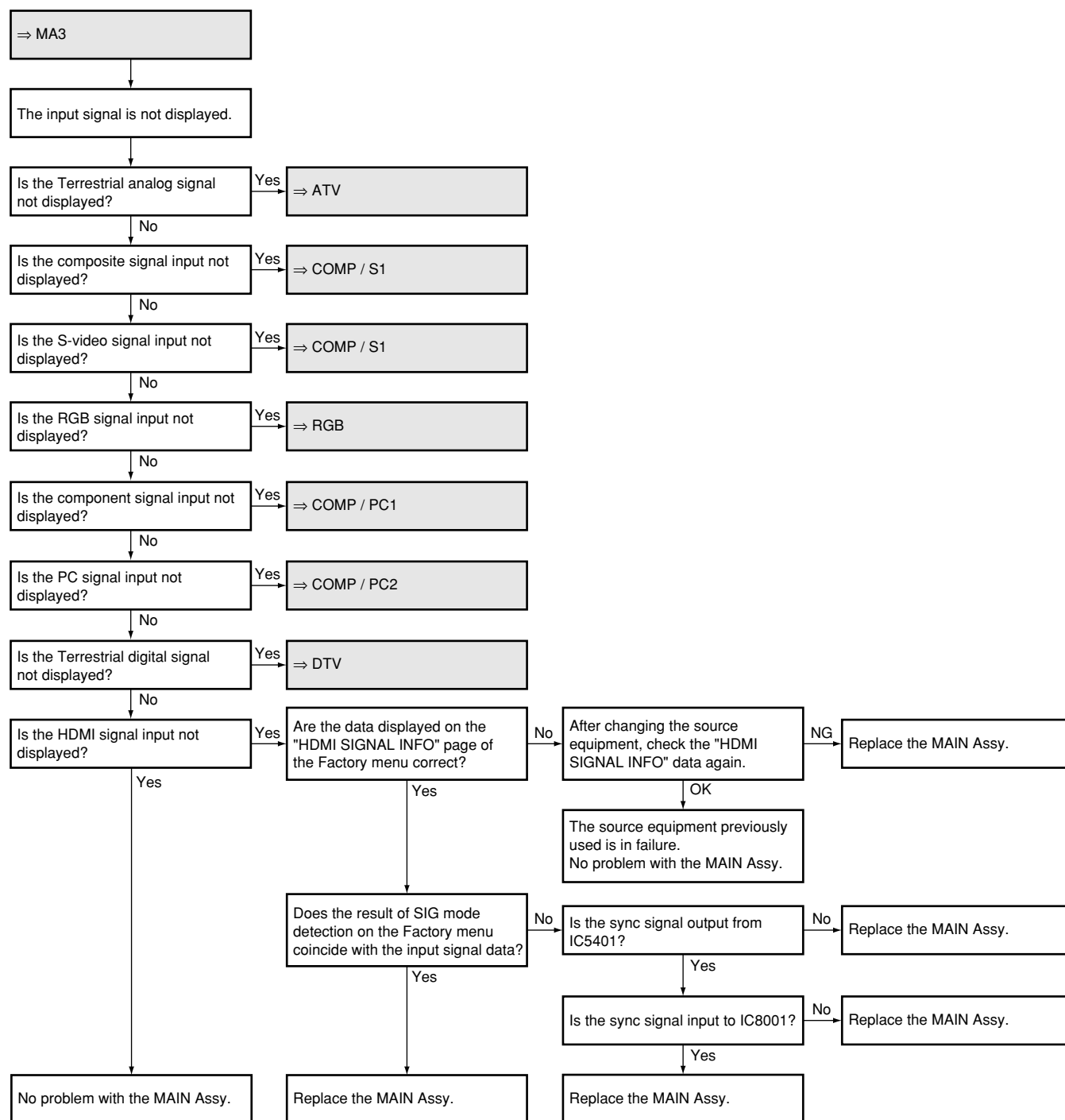
A

### Flowchart of Failure Analysis for The MAIN Assy



## 5.1.6 FLOWCHART OF FAILURE ANALYSIS FOR THE VIDEO SYSTEM

Flowchart of Failure Analysis for The Video System



A

## Flowchart of Failure Analysis for The Video System

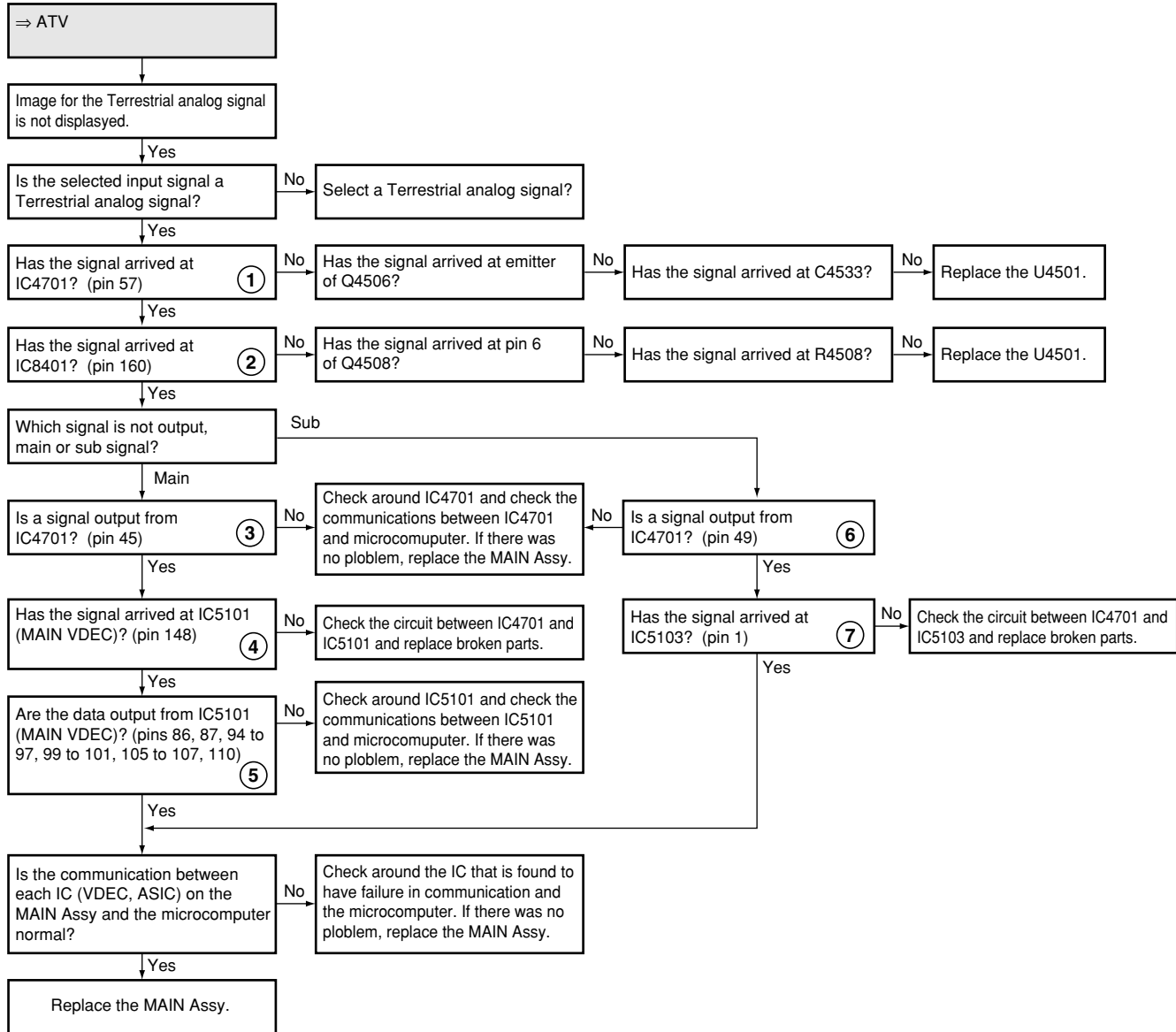
B

C

D

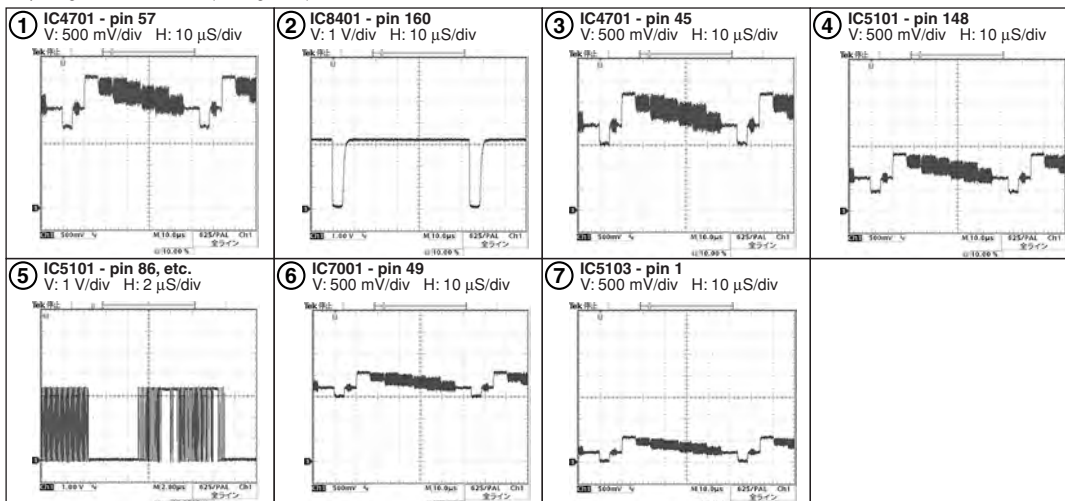
E

F

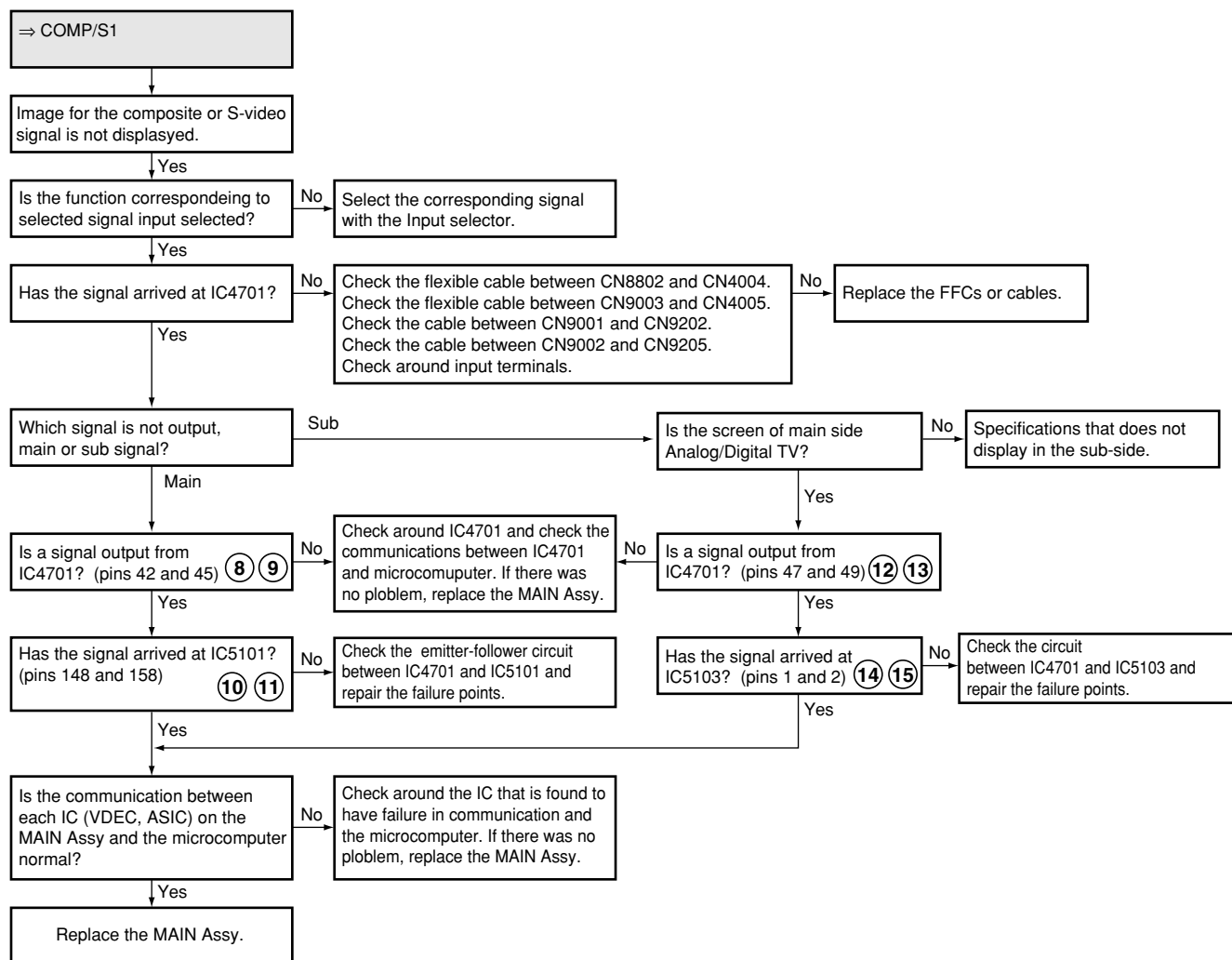


### Waveforms

Input signal: PAL Color-bar (Analog tuner)

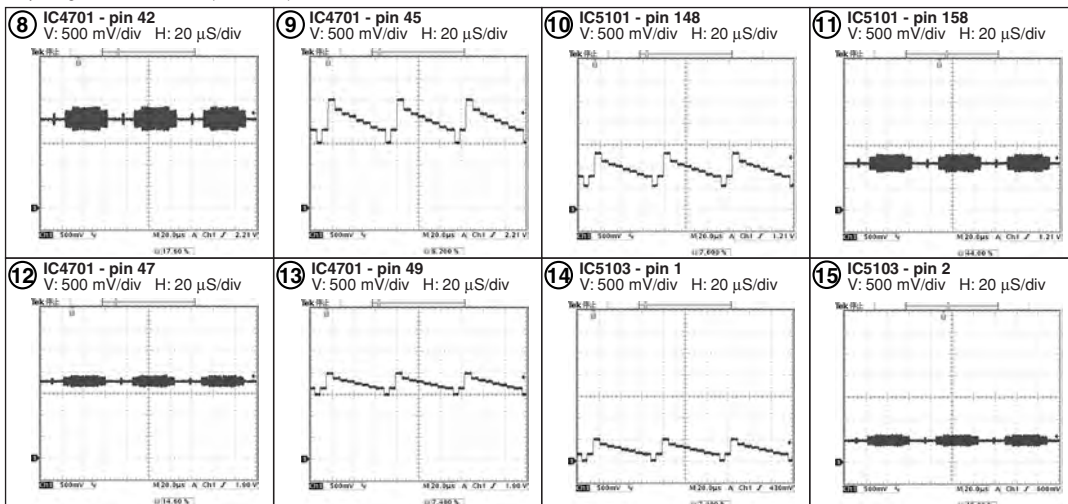


## Flowchart of Failure Analysis for The Video System



### Waveforms

Input signal: PAL Color-bar (S terminal)



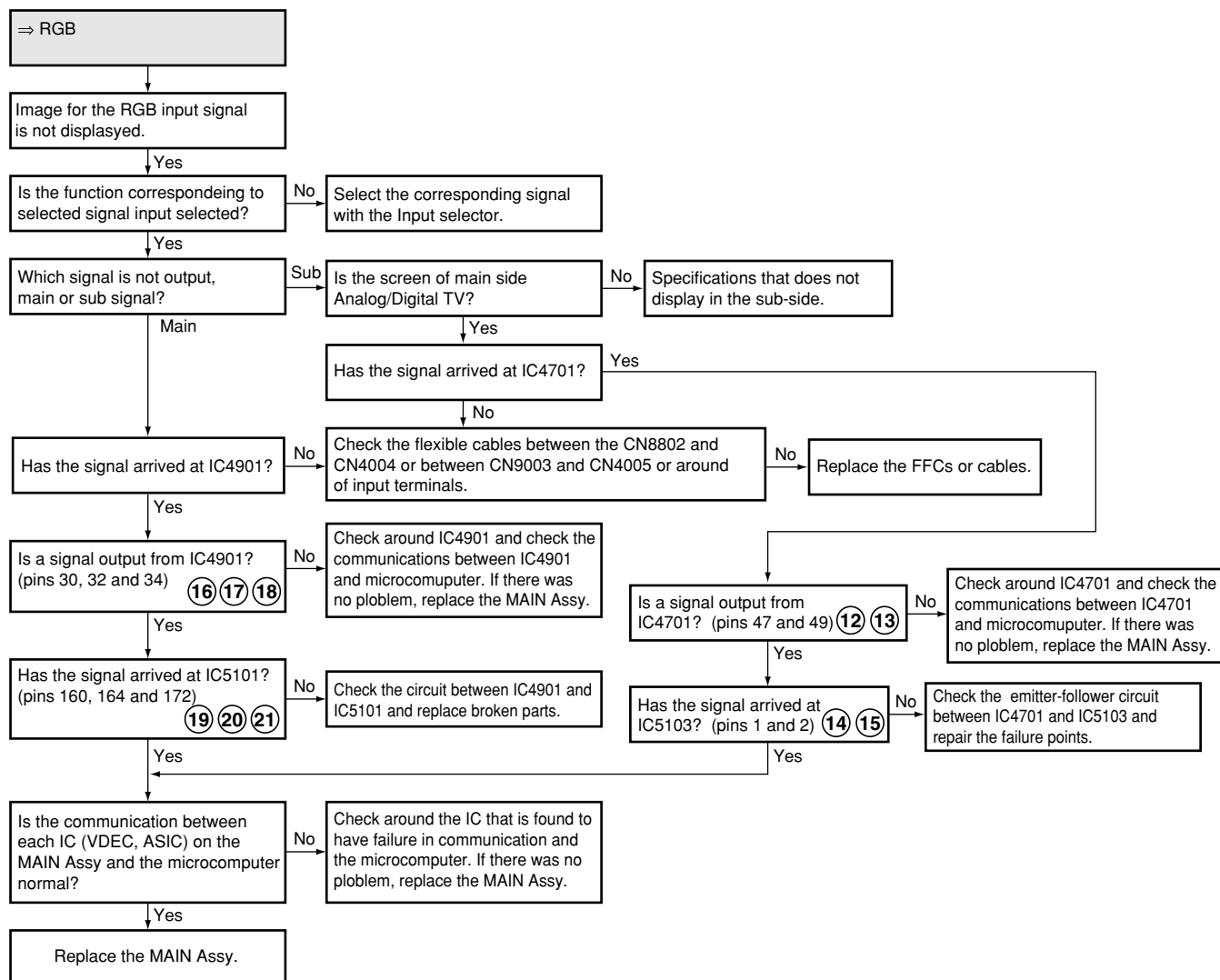
A

## Flowchart of Failure Analysis for The Video System

B

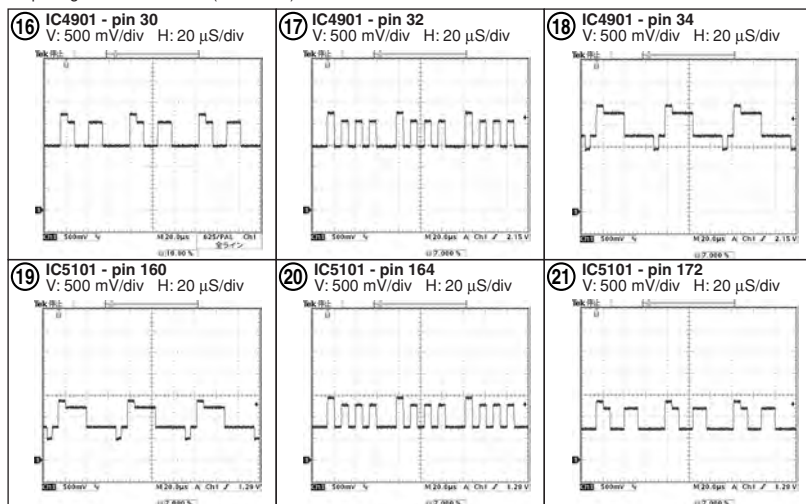
C

D



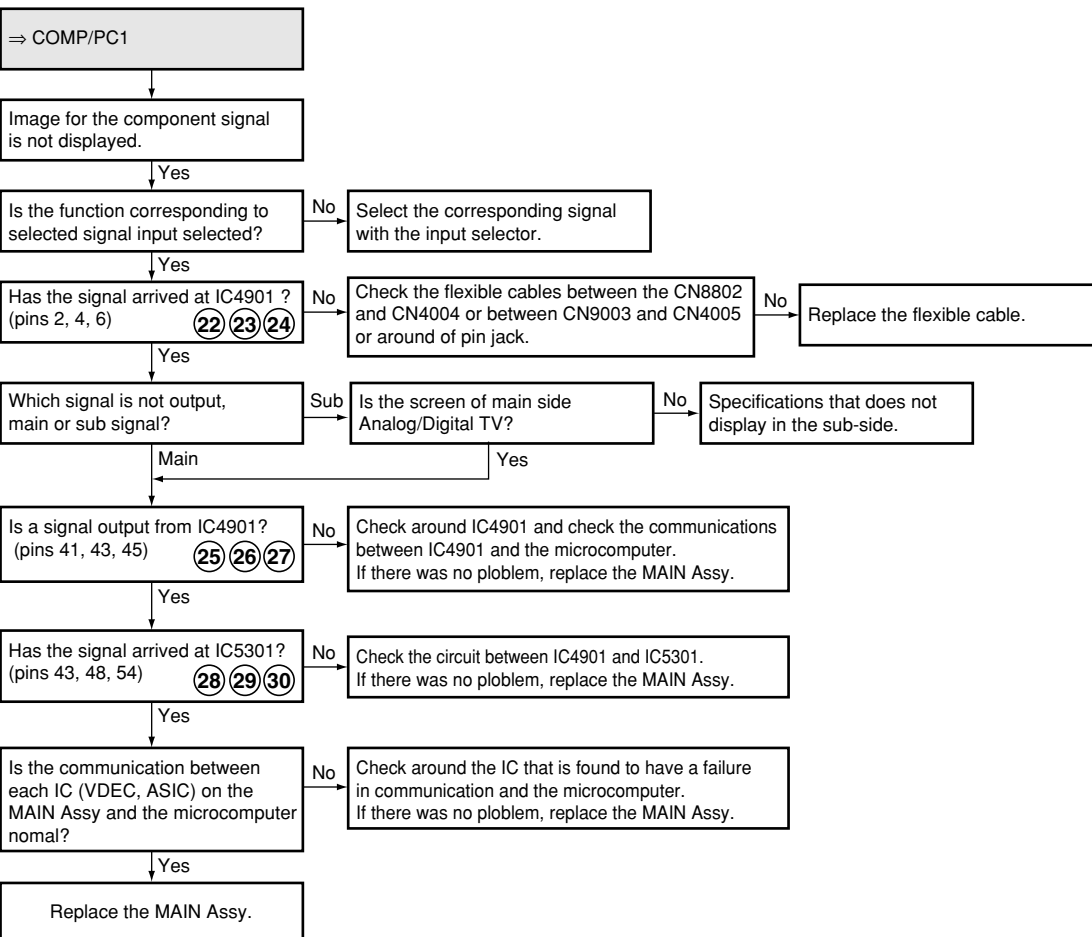
### Waveforms

Input signal: PAL Color-bar (S terminal)



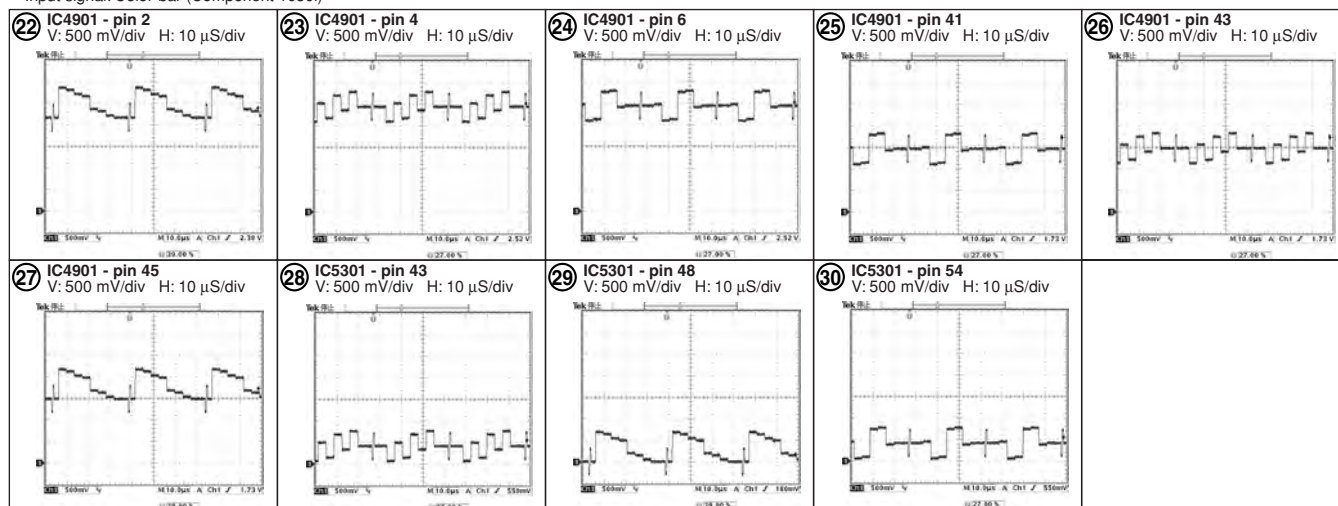
## Flowchart of Failure Analysis for The Video System

### No video from component



### • Waveforms

Input signal: Color-bar (Component 1080i)



A

## Flowchart of Failure Analysis for The Video System

B

C

D

E

F

⇒ COMP/PC2

Image for the PC signal is not displayed.

Yes

Is the function corresponding to selected signal input selected?

No

Select the corresponding signal with the input selector.

Yes

Has the signal arrived at IC4901 ?  
(pins 61, 62, 64, 66, 68)

No

Check the flexible cable between the CN9301 and CN4018 or around of jack.

No

Replace the flexible cable.

Yes

Which signal is not output, main or sub signal?

Sub

Is the screen of main side Analog/Digital TV?

No

Specifications that does not display in the sub-side.

Main

Yes

Is a signal output from IC4901?  
(pins 41, 43, 45)

No

Check around IC4901 and check the communications between IC4901 and the microcomputer.  
If there was no problem, replace the MAIN Assy.

Yes

Has the signal arrived at IC5301?  
(pins 43, 48, 54)

No

Check the circuit between IC4901 and IC5301.  
If there was no problem, replace the MAIN Assy.

Yes

Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?

No

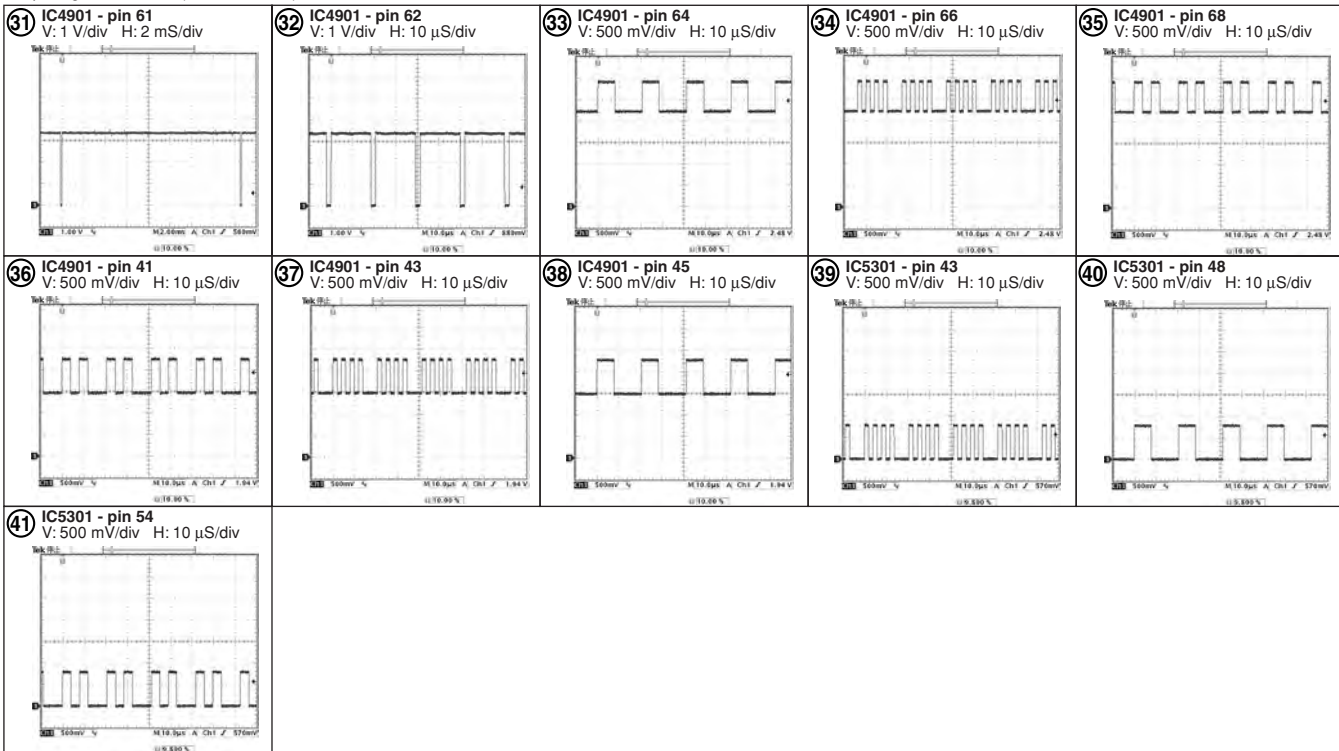
Check around the IC that is found to have a failure in communication and the microcomputer.  
If there was no problem, replace the MAIN Assy.

Yes

Replace the MAIN Assy.

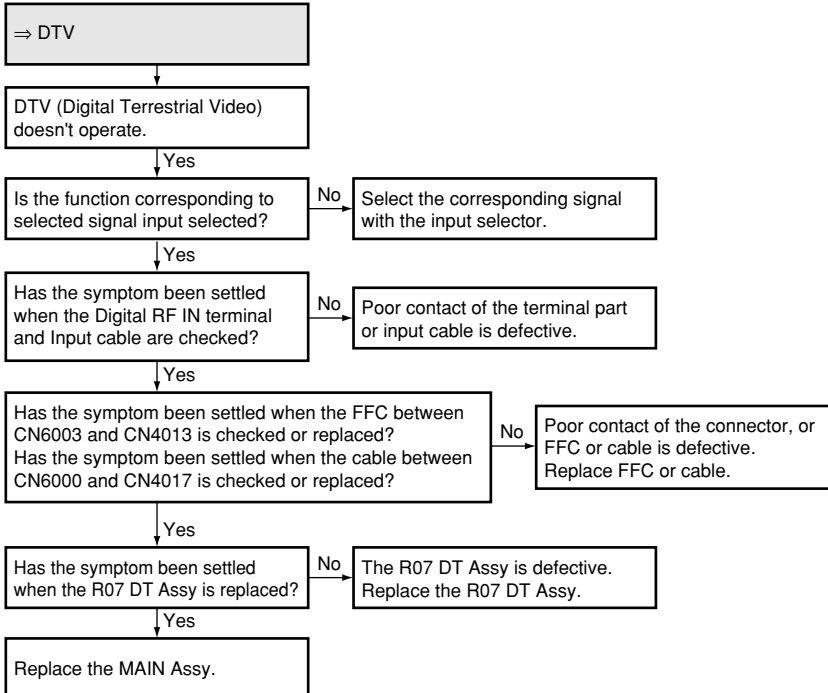
### Waveforms

Input signal: Color-bar (PC XGA/60 Hz)



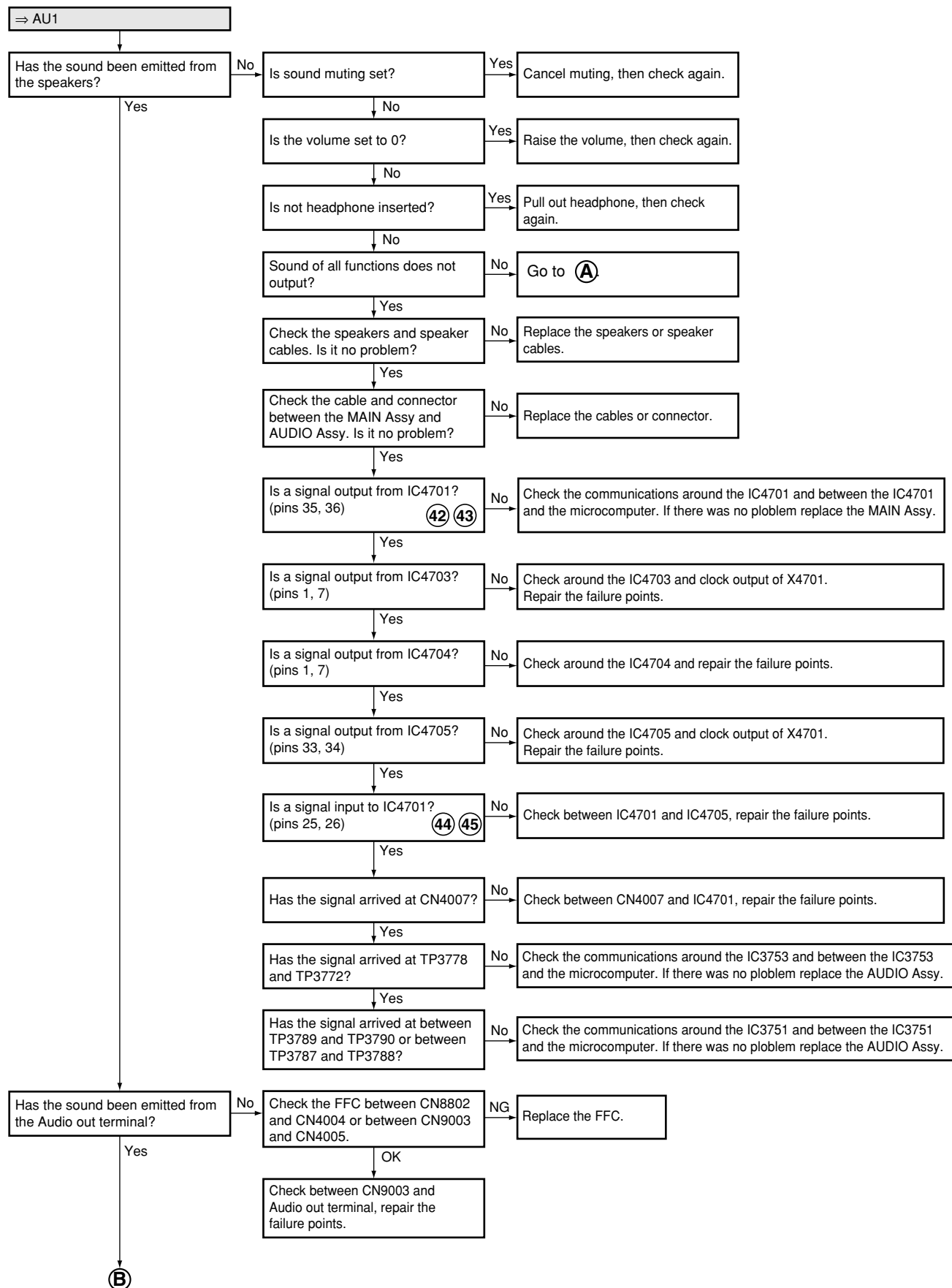
## Flowchart of Failure Analysis for The Video System

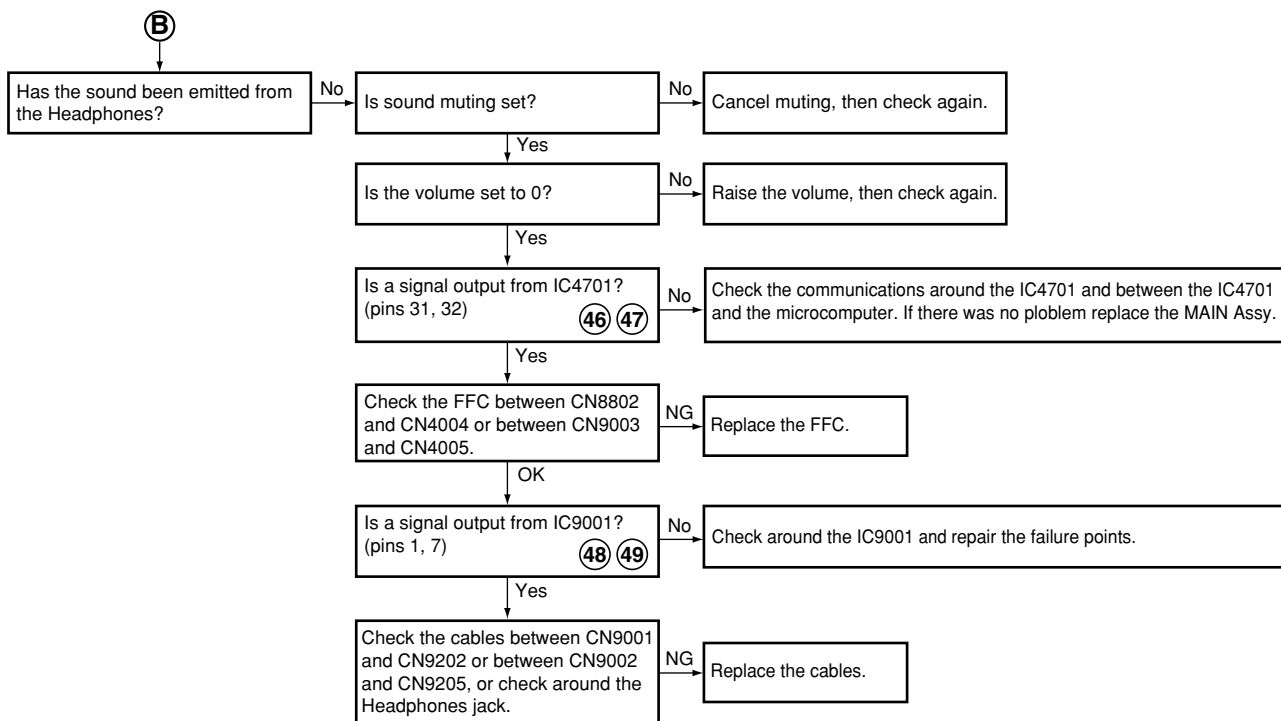
### DTV doesn't work



## 5.1.7 FLOWCHART OF FAILURE ANALYSIS FOR THE AUDIO SYSTEM

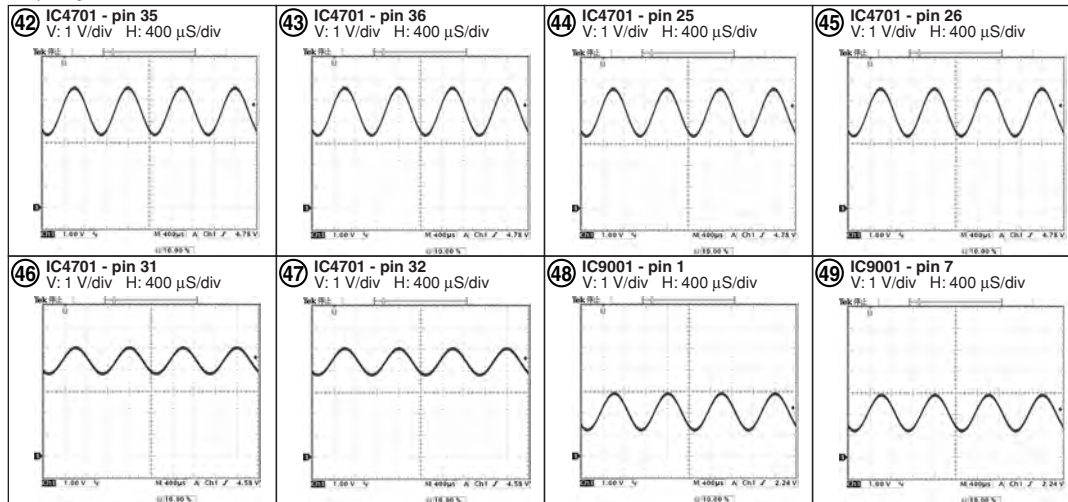
**Flowchart of Failure Analysis for The Audio System**





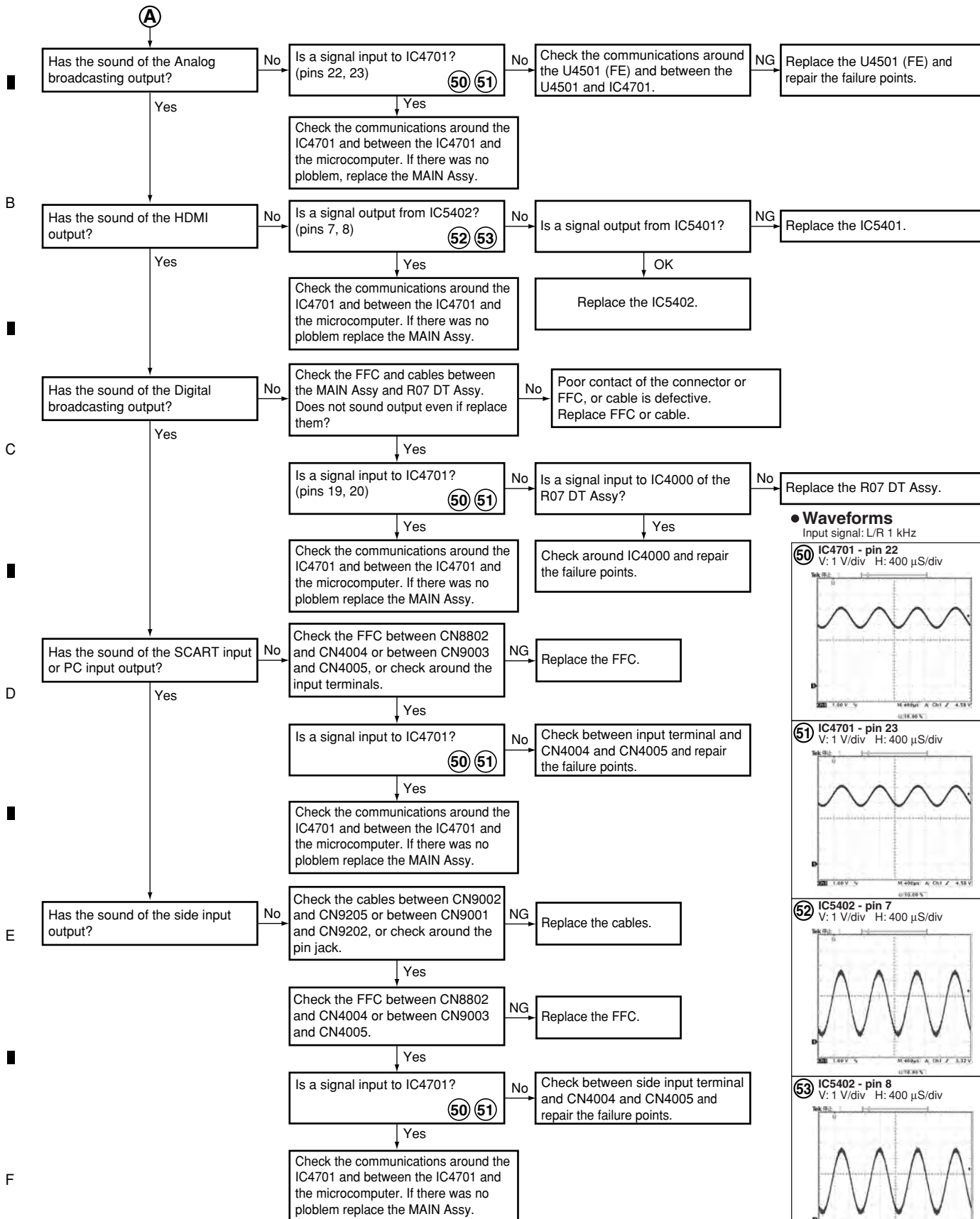
### • Waveforms

Input signal: L/R 1 kHz



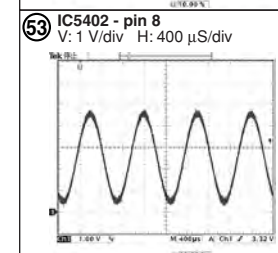
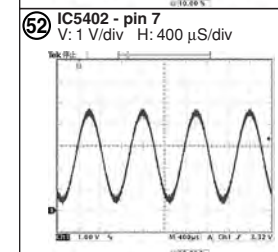
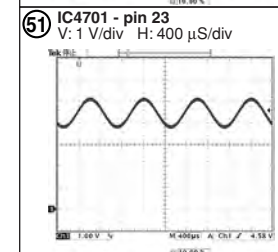
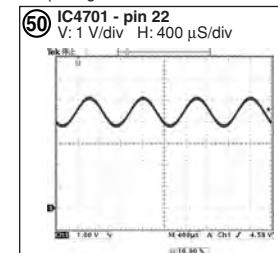
A

## Flowchart of Failure Analysis for The Audio System



### Waveforms

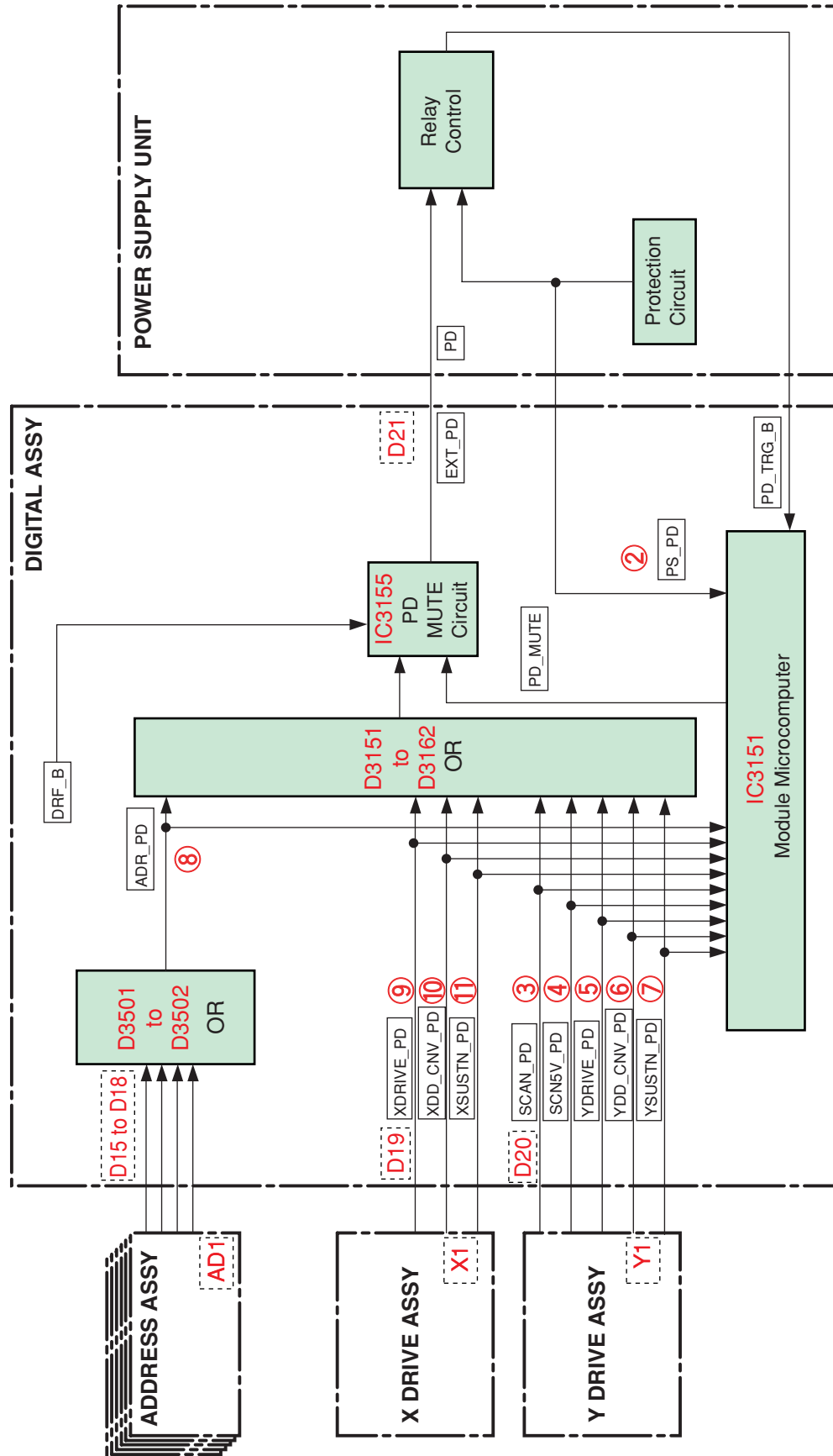
Input signal: L/R 1 kHz



## 5.2 DIAGNOSIS OF PD (POWER-DOWN)

### 5.2.1 BLOCK DIAGRAM OF THE POWER-DOWN SIGNAL

**Note:**  
The figures ② to ⑪ indicate the number of times the LED flashes when power-down occurs in the corresponding route.



## 5.2.2 DIAGNOSIS OF THE PD (POWER-DOWN)

### Prediction of failure symptoms when a PD (power-down) is generated

| LED Flashing Count | PD Circuit      | Checkpoint        | Main Cause                                                                                                                                                                 |
|--------------------|-----------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2                  | Power supply PD | POWER SUPPLY Unit | Failure in the POWER SUPPLY Unit                                                                                                                                           |
| 3                  | SCAN PD         | SCAN A, B Assy    | SCAN IC is damaged (short-circuiting between VH and GNDH)                                                                                                                  |
|                    |                 | Y DRIVE Assy      | Connectors disconnected between the POWER SUPPLY Unit and the Y DRIVE Assy<br>Connectors disconnected between the DIGITAL and the Y DRIVE Assys<br>Failure in the VH power |
| 4                  | IC5V PD         | SCAN A, B Assy    | SCAN IC is damaged (short-circuiting between IC5V and GNDH)<br>Disconnection of the scan-bridge (15-pin) connector                                                         |
|                    |                 | Y DRIVE Assy      | Failure in the photo coupler<br>Abnormality in the IC5V DC/DC converter                                                                                                    |
| 5                  | Y-DRIVE PD      | Y DRIVE Assy      | Abnormality in the 16.5 V power                                                                                                                                            |
| 6                  | Y DCDC PD       | Y DRIVE Assy      | Abnormality in the VOFS DC/DC converter                                                                                                                                    |
|                    |                 |                   | Abnormality in the VPRST DC/DC converter                                                                                                                                   |
|                    |                 |                   | Abnormality in VC_15V DC/DC converter                                                                                                                                      |
| 7                  | Y SUS PD        | Y DRIVE Assy      | Abnormality in the DK module                                                                                                                                               |
|                    |                 |                   | Abnormality in the control signal line                                                                                                                                     |
| 8                  | Address PD      | ADDRESS Assy      | Short-circuiting of Vadr<br>TCP damaged                                                                                                                                    |
| 9                  | X-DRIVE PD      | X DRIVE Assy      | Connectors disconnected between the DIGITAL and the X DRIVE Assys                                                                                                          |
|                    |                 |                   | Abnormality in the 16.5 V power                                                                                                                                            |
| 10                 | X DCDC PD       | X DRIVE Assy      | Abnormality in VC_15V power                                                                                                                                                |
|                    |                 |                   | Abnormality in VXNRST power                                                                                                                                                |
| 11                 | X SUS PD        | X DRIVE Assy      | Abnormality in the DK module                                                                                                                                               |
|                    |                 |                   | Abnormality in the control signal line                                                                                                                                     |
|                    |                 |                   | Connectors disconnected between the POWER SUPPLY Unit and the X DRIVE Assy                                                                                                 |

### How to distinguish which connector is disconnected

| Assy           | Connector                      | To which Assy the Connector is Connected | Frequency of LED Flashing | Screen Display                   |
|----------------|--------------------------------|------------------------------------------|---------------------------|----------------------------------|
| X DRIVE Assy   | CN1001                         | DIGITAL Assy                             | 11 (XDRIVE)               | —                                |
|                | CN1204                         | POWER SUPPLY Unit (ADR system power)     | —                         | White (left half of the screen)  |
|                | CN1206                         | POWER SUPPLY Unit (drive system power)   | 12 (X-SUS)                | —                                |
|                | CN1201, CN1202, CN1203, CN1205 | ADDRESS Assy                             | 8 (ADR)                   | —                                |
|                |                                |                                          |                           |                                  |
| Y DRIVE Assy   | CN2001                         | DIGITAL Assy                             | 3 (SCAN)                  | —                                |
|                | CN2351                         | POWER SUPPLY Unit (drive system power)   | 3 (SCAN)                  | —                                |
|                | CN2353                         | POWER SUPPLY Unit (ADR system power)     | —                         | White (right half of the screen) |
|                | CN2354, CN2355, CN2356, CN2357 | ADDRESS Assy                             | 8 (ADR)                   | —                                |
|                | CN2401, CN2402                 | SCAN A, B Assy                           | 4 (SCN-5V)                | —                                |
| SCAN A, B Assy | CN2701, CN2801                 | Y DRIVE Assy                             | 4 (SCN-5V)                | —                                |
| ADDRESS Assy   | CN1502, CN1702                 | DIGITAL Assy                             | 8 (ADRS)                  | —                                |
|                | CN1501, CN1701                 | X DRIVE Assy, Y DRIVE Assy               | 8 (ADRS)                  | —                                |

## ■ How to identify the cause of a power-down that is indicated by 2-times flashing of the red LED

The cause of a power-down that is indicated by 2-times flashing of the red LED can be identified by performing the steps ① to ③ below:

- ① Visual check with the power off
- ② Tester check with the power off
- ③ Check with the power on

### ① Status check with the power off

Check if the cables and FFC cables that are connected to the Y DRIVE Assy are firmly connected.

### ② Tester check with the power off

#### 1. Check between Vsus and SUSGND with a tester

Disconnect all cables from the X and Y DRIVE Assys and check if there is short-circuiting between Vsus and SUSGND in the X and Y DRIVE Assys.

- How to check if there is short-circuiting on the X DRIVE Assy:  
If there is short-circuiting between Vsus and SUS OUT, and SUS OUT and SUSGND, the X Mask Module is damaged.  
If they are not short-circuited, check other elements to see if they are short-circuited.
- How to check if there is short-circuiting on the Y DRIVE Assy:  
If there is short-circuiting between Vsus and SUS OUT, and SUS OUT and SUSGND, the Y Mask Module is damaged.  
If they are not short-circuited, check other elements to see if they are short-circuited.
- Check for short-circuiting in the Power supply.

Note that at the beginning of measuring with a tester, charging of an electrolytic capacitor may cause a phenomenon like short-circuiting. However, the resistance will soon rise if there is no short-circuiting.

#### 2. Check for short-circuiting between VH and PSUS with a tester

Disconnect the cables that connect the bridge connectors between the Y DRIVE Assy and upper and lower SCAN Assys.

- If there is short-circuiting in the upper SCAN Assy, one of Scan ICs in the upper SCAN Assy is damaged.
- If there is short-circuiting in the lower SCAN Assy, one of Scan ICs in the lower SCAN Assy is damaged.
- If there is short-circuiting in the Y DRIVE Assy, a circuit in the Y DRIVE Assy is short-circuited.

If no short-circuiting is detected up to this stage, the power-down in question is proved not to be caused by short-circuiting. Therefore, it is assumed that the power-down occurred because power had not been supplied to Vsus or VH for some reason.

### ③ Check immediately after the unit is turned on before a power-down occurs.

If the Vsus voltage does not increase, the POWER SUPPLY Unit is in failure.

If the VH voltage does not increase, the VH DC/DC converter in the Y DRIVE Assy is in failure.

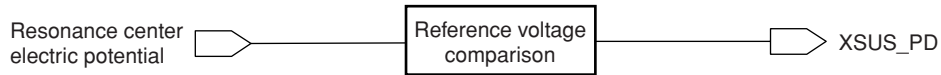
### ④ Check the PD detection circuit.

If no problem is detected in steps ① to ③, a power-down occurred even though the voltage was normal. Therefore, the PD detection circuit may be in failure.

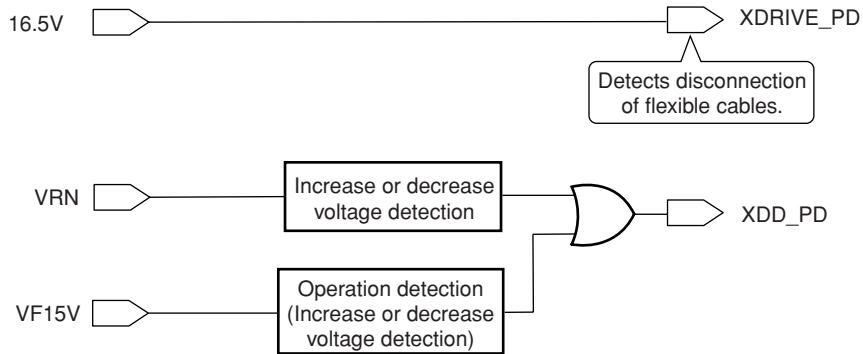
By following the above procedures, the real cause of a power-down can be judged.

A

### X Drive PD system

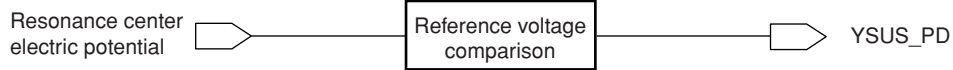


B

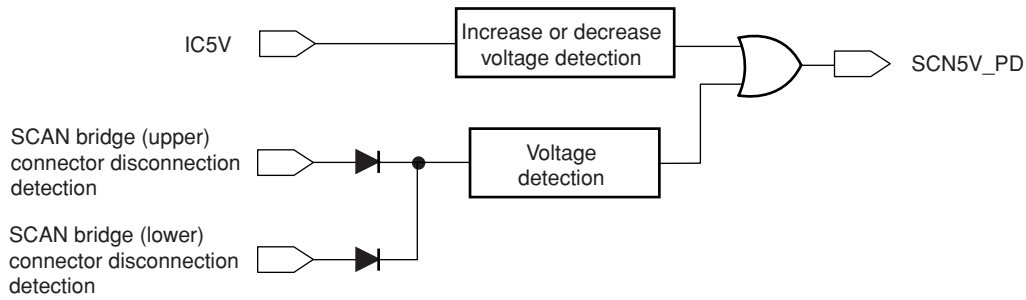


C

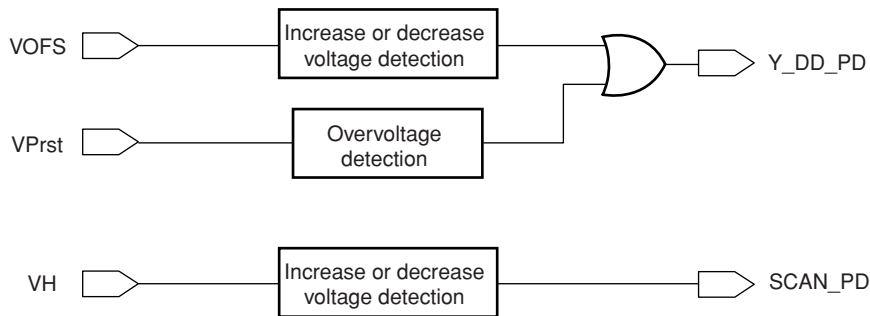
### Y Drive PD system



D



E

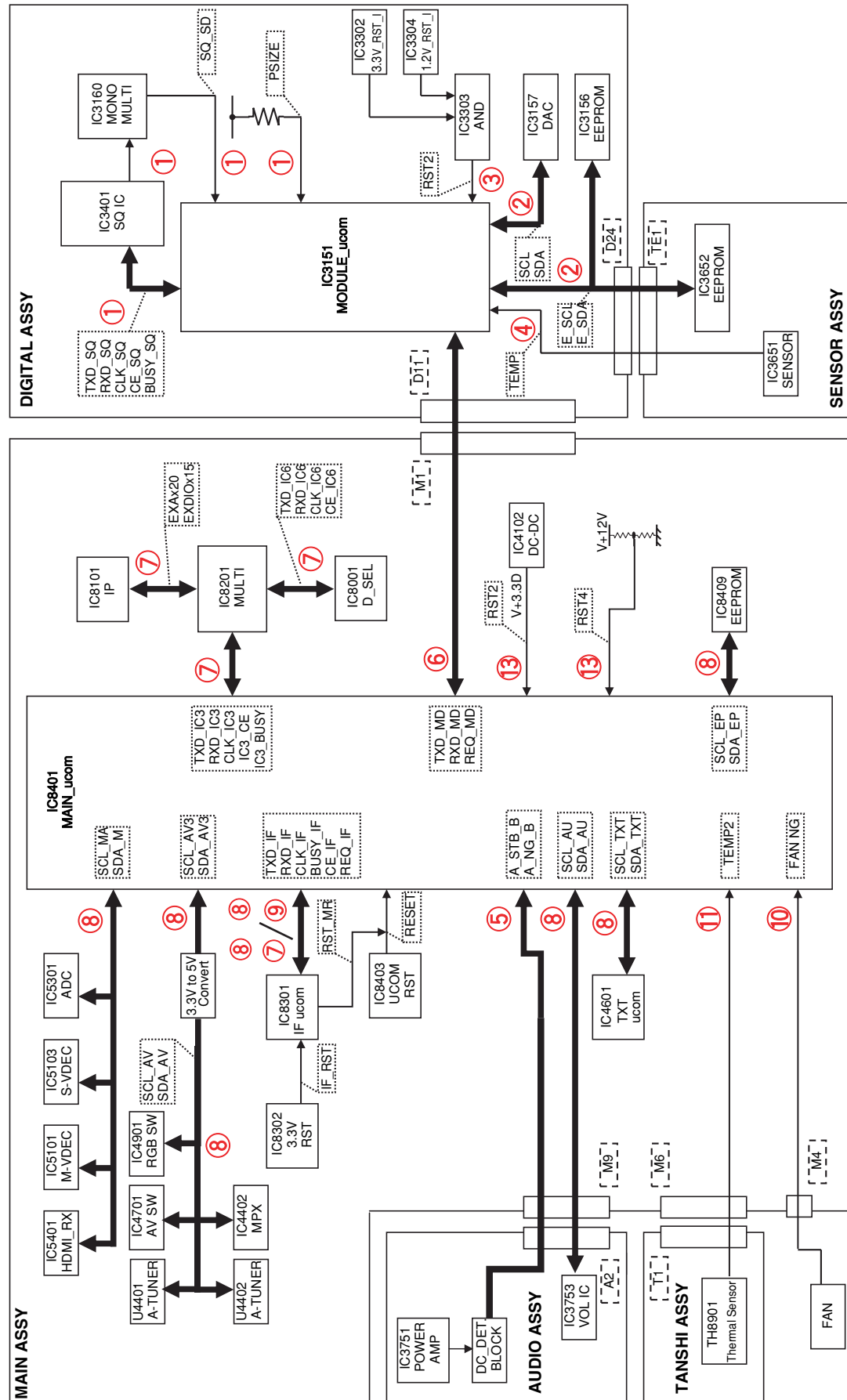


F

## 5.3 DIAGNOSIS OF SD (SHUTDOWN)

### 5.3.1 BLOCK DIAGRAM OF THE SHUTDOWN SIGNAL

**Note :** The figures ① to ⑬ indicate the number of times the LED flashes when shut-down occurs in the corresponding route.



## 5.3.2 SD (SHUTDOWN) DIAGNOSIS

| Frequency of LED Flashing | Major Type                                                           | Detailed Type                           | Log Indication in Factory Mode |        | Checkpoint                                                                                | Possible Defective Part        | Remarks                                                                                                           |
|---------------------------|----------------------------------------------------------------------|-----------------------------------------|--------------------------------|--------|-------------------------------------------------------------------------------------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
|                           |                                                                      |                                         | MAIN                           | SUB    |                                                                                           |                                |                                                                                                                   |
| Blue 1                    | Abnormality in the Sequence Processor                                | Communication error                     | SQ-IC                          | RTRY   | CLK_SQ/TXD_SQ, etc.                                                                       | IC3151, IC3401                 | SQ_IC communication not established                                                                               |
|                           |                                                                      | Drive stop                              |                                | SQNO   | Check if the video sync signal is input to IC3401.                                        | CN3001, IC3401                 | If the signal detection by the module microcomputer is properly performed, the unit operates on an external sync. |
| Blue 2                    | Failure in IIC communication with the module microcomputer           | Busy                                    | MD-IC                          | BUSY   | BUSY_SQ                                                                                   | IC3401                         | If BUSY_SQ remains high, a shutdown is generated.                                                                 |
|                           |                                                                      | Incoherent version (hardware, software) |                                | VER-HS | Check the model number of the DIGITAL Assy and the destination of the sequence processor. | IC3301, IC3401                 | The written SQ_PROG is incoherent with data on the DIGITAL Assy.                                                  |
|                           |                                                                      | DIGITAL Assy EEPROM                     |                                | EEPROM | IIC communication line of IC3156                                                          | IC3151, IC3156                 | Check the pull-up resistor of the IIC control line and the power to the corresponding IC.                         |
|                           |                                                                      | SENSOR Assy EEPROM                      |                                | BACKUP | IIC communication line of IC3652                                                          | IC3151, IC3652                 | Check the pull-up resistor of the IIC control line and the power to the corresponding IC.                         |
| Blue 3                    | Abnormality in RST2 power decrease                                   | DAC                                     | RST2                           | DAC    | IIC communication line of IC3157                                                          | IC3151, IC3157                 | Check the pull-up resistor of the IIC control line and the power to the corresponding IC.                         |
|                           |                                                                      |                                         |                                |        | Is the output voltage of the DC-DC converter low?                                         | AXY1135                        | If RST2 does not become high after the unit is turned on, a shutdown will be generated in several seconds.        |
| Blue 4                    | High temperature of the panel                                        |                                         | TMP_NG                         |        | The 12 V power is not output.                                                             | POWER SUPPLY Unit              | Check if V + 12 V is started.                                                                                     |
|                           |                                                                      |                                         |                                | TEMP1  | Ambient temperature                                                                       | IC3651                         | If TEMP1 that is read by the module microcomputer is 75°C or higher, a shutdown will be generated.                |
| Blue 5                    | Short-circuiting of the speakers                                     |                                         | AUDIO                          |        | Abnormality in the panel temperature sensor                                               | IC3651                         | Check the connection with the SENSOR Assy.                                                                        |
|                           |                                                                      |                                         |                                |        | Speaker terminals                                                                         | CN3753, CN3901, JA3901         | Check if any speaker cable is in contact with the chassis.                                                        |
| Blue 6                    | Failure in communication with the module microcomputer               |                                         | MODULE                         |        | AUDIO AMP                                                                                 | IC3751                         | Check if the AMP output is short-circuited.                                                                       |
|                           |                                                                      |                                         |                                |        | Periphery of the cable between A2 and M8                                                  | CN3752, CN4007                 | Check if cables are firmly connected.                                                                             |
| Blue 7                    | Failure in main microcomputer 3-wire serial communication            |                                         | MA-SRL                         |        | Communication line between MAIN and MOD                                                   | IC3151, IC8401                 | Check the communication lines (RXD, MOD/RXD, MOD/REQ, MOD).                                                       |
|                           |                                                                      |                                         |                                |        | Periphery of the cable between D11 and M2                                                 | CN3001, CN4001                 | Check if cables are firmly connected.                                                                             |
|                           |                                                                      | IF microcomputer                        |                                | IF     | Communication line between IF and MAIN                                                    | IC8301, IC8401                 | Check the communication lines (TXD, IF/RXD, IF/CLK, IF/BUSY, IF/OE, IF/REQ, IF).                                  |
|                           |                                                                      | MULTI                                   |                                | MULTI  | Communication line between MULTI, M and MAIN                                              | IC8201, IC8401                 | Check the communication lines (TXD, IC3/RXD, IC3/CLK, IC3/CE, IC3/IC3_BUSY).                                      |
| Blue 8                    | Failure in IIC communication with the main microcomputer             |                                         | MA-IC                          | D_SEL  | Bus communication line between D_SEL and MULTI, M                                         | IC8101, IC8201                 | Check the communication lines (EXA/EXDIO).                                                                        |
|                           |                                                                      |                                         |                                |        | Communication line between D_SEL and MULTI, M                                             | IC8001, IC8201                 | Check the communication lines (TXD, IC6/RXD, IC6/CLK, IC6/CE, IC6).                                               |
|                           |                                                                      | AV Switch                               |                                | AV-SW  | IIC communication line between AV, SW and MAIN                                            | IC4701, IC8401                 | Check the communication lines (SCL, AV3/SDA, AV3 or SCL, AV/SDA, AV).                                             |
|                           |                                                                      | RGB Switch                              |                                | RGB-SW | IIC communication line between RGB, SW and MAIN                                           | IC4901, IC8401                 | Check the communication lines (SCL, AV3/SDA, AV3 or SCL, AV/SDA, AV).                                             |
|                           |                                                                      | Analog Tuner                            |                                | FE1    | IIC communication line between A_Tuner and MAIN                                           | U401, IC8401                   | Check the communication lines (SCL, AV3/SDA, AV3 or SCL, AV/SDA, AV).                                             |
|                           |                                                                      | Sub VDEC                                |                                | S-VDEC | IIC communication line between S_VDEC and MAIN                                            | IC5103, IC8401                 | Check the communication lines (SCL, MA/SDA, MA).                                                                  |
|                           |                                                                      | MPX                                     |                                | MPX    | IIC communication line between MPX and MAIN                                               | IC4402, IC8401                 | Check the communication lines (SCL, AV3/SDA, AV3 or SCL, AV/SDA, AV).                                             |
|                           |                                                                      | Main VDEC                               |                                | M-VDEC | IIC communication line between M_VDEC and MAIN                                            | IC5101, IC8401                 | Check the communication lines (SCL, MA/SDA, MA).                                                                  |
|                           |                                                                      | AD/PLL                                  |                                | ADC    | IIC communication line between ADC and MAIN                                               | IC5301, IC8401                 | Check the communication lines (SCL, MA/SDA, MA).                                                                  |
|                           |                                                                      | HDMI                                    |                                | HDMI   | IIC communication line between HDMI_RX and MAIN                                           | IC5401, IC8401                 | Check the communication lines (SCL, MA/SDA, MA).                                                                  |
| Blue 9                    | Failure in communication with the main microcomputer and unknown     |                                         | MAIN                           | TXT    | IIC communication line between TXT and MAIN                                               | IC4601, IC8401                 | Check the communication lines (SCL, TXT/SDA, TXT).                                                                |
|                           |                                                                      |                                         |                                |        | IIC communication line between EEPROM and MAIN                                            | IC4801, IC8401                 | Check the communication lines (SCL, TXT/SDA, EP).                                                                 |
|                           |                                                                      |                                         |                                |        | IIC communication line between VOL_IC and MAIN                                            | IC3753, IC8401                 | Check the communication lines (SCL, AUDIO/SDA, AUDIO).                                                            |
|                           |                                                                      |                                         |                                |        | VOLUME IC                                                                                 | AUDIO                          | Periphery of the cable between A2 and M9                                                                          |
| Blue 10                   | Failure in the fan                                                   |                                         | FAN                            |        | Communication line between IF and MAIN                                                    | IC8301, IC8303, IC8304, IC8401 | Check the communication lines (TXD, IF/RXD, IF/CLK, IF/BUSY, IF/OE, IF/REQ, IF).                                  |
|                           |                                                                      |                                         |                                |        | Dirt attached to the fan motor                                                            | —                              | Check the fan.                                                                                                    |
| Blue 11                   | High temperature of the unit                                         |                                         | TEMP2                          |        | Periphery of the cable between fan and M4                                                 | CN4009                         | Check if cables are firmly connected.                                                                             |
|                           |                                                                      |                                         |                                |        | Periphery of the fan control regulator                                                    | IC8407                         | —                                                                                                                 |
|                           |                                                                      |                                         |                                |        | Temperature sensor or its periphery                                                       | —                              | A shutdown is generated if TEMP2 becomes higher than 53°C                                                         |
|                           |                                                                      |                                         |                                |        | Periphery of the temperature sensor                                                       | TH8801, CN8006                 | TEMP2                                                                                                             |
| Blue 12                   | Digital Tuner<br>The unit will not be shut down. the log is recorded |                                         | DTUNER                         |        | Periphery of the cable between T1 and M6                                                  | CN8804, CN4005                 | Check if cables are firmly connected.                                                                             |
|                           |                                                                      |                                         |                                |        | Failure in the system IC or its peripheral circuit                                        | IC2000                         | Check for short-circuited/open communication line (M12 TXD, DT/RXD, DT)                                           |
|                           |                                                                      |                                         |                                |        |                                                                                           |                                |                                                                                                                   |
| Blue 13                   | Failure in the POWER SUPPLY Unit                                     |                                         | MA-PWR                         |        | DC-DC converter or its periphery, RST2                                                    | IC4102, Q4106                  | Check if V + 3.3 V is started.                                                                                    |
|                           |                                                                      |                                         |                                | RELAY  | The 12 V power is not output, RST4                                                        | —                              | Check if V + 12 V is started.                                                                                     |
|                           |                                                                      | POWER SUPPLY                            |                                |        | Periphery of the cable between P8 and M2                                                  | CN4002                         | Check if cables are firmly connected.                                                                             |

## 5.4 INFORMATION ON SYMPTOMS THAT DO NOT CONSTITUTE FAILURE

### Information on symptoms that do not constitute failure

| Symptom                                                                                                                                                                           | Cause, item to check, information                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>HDMI: Symptoms concerning the input format and settings</b>                                                                                                                    |                                                                                                                                                                                                                                                                                                                 |
| The picture color for an INPUT 3 or 4 signal is not correct.                                                                                                                      | The color setting for INPUT 5 or 6 is not compatible with that of the output equipment. Check whether the color setting is YPbPr or RGB.                                                                                                                                                                        |
| The video signal to INPUT 3 or 4 is not displayed, and a message is displayed.                                                                                                    | A unsupported video signal is input.<br>Example: 1080p @ 60Hz                                                                                                                                                                                                                                                   |
| The audio signal input to the INPUT 3 or 4 pin jack is not output.                                                                                                                | The audio setting for INPUT 5 or 6 is "AUTO," and a video signal is not input. If the audio setting is "AUTO," to output an analog audio signal, the DVI signal must be input via a DVI-HDMI conversion cable.<br>When the DVI equipment is connected, the analog signals are selected with the setting "AUTO." |
| No sound of signals to INPUT 3 or 4 is output.                                                                                                                                    | The setting on the side of the HDMI output equipment is wrong.<br>Example: Dolby Digital                                                                                                                                                                                                                        |
| <b>MONITOR video output</b>                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                 |
| The video output signal from the MONITOR connector is deteriorated. Or when the video output signal from the MONITOR connector is recorded, its playback picture is deteriorated. | The video signal output from the MONITOR connector is Macrovision protected.                                                                                                                                                                                                                                    |
| The video signal is not output when the component signal is input to INPUT 2.                                                                                                     | The video signal is not output from the MONITOR connector when the component signal is selected.                                                                                                                                                                                                                |
| The video signal is not output when the video signal is input to INPUT 3 or 4.                                                                                                    | The video signal is not output from the MONITOR connector when the HDMI signal is selected.                                                                                                                                                                                                                     |
| <b>MONITOR audio output</b>                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                 |
| The image displayed on the PDP is not synchronized with the sound from the MONITOR audio output.                                                                                  | The audio signal from the MONITOR connector is synchronized with the video output signal from the MONITOR connector.                                                                                                                                                                                            |
| <b>DIGITAL audio output</b>                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                 |
| Playback of the signal from the DIGITAL audio output connector is possible, but recording is not possible.                                                                        | The video signal output from the DIGITAL connector is copy-protected.                                                                                                                                                                                                                                           |
| The video output signal from the DIGITAL connector is not synchronized with that from the MONITOR video output.                                                                   | The digital audio output signal from the DIGITAL connector is synchronized with the video signal that is currently displayed, and not with the MONITOR video output.                                                                                                                                            |
| <b>Miscellaneous</b>                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                 |
| The no-signal off function is not activated.                                                                                                                                      | The no-signal off function is effective only while a video signal is being input.                                                                                                                                                                                                                               |
| The no-operation off function is not activated.                                                                                                                                   | The no-operation off function is effective only while a video signal is being input.                                                                                                                                                                                                                            |
| Power management does not function.                                                                                                                                               | Power management is effective only while a signal is being input from a PC.                                                                                                                                                                                                                                     |
| The AUTO SETUP function is not activated.                                                                                                                                         | The AUTO SETUP function is effective only while a signal is being input from a PC.                                                                                                                                                                                                                              |
| • • • •                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                 |
| Control via the SR connector is not possible.                                                                                                                                     | A failure in the G-Link system or wrong connection of the cable to the SR audio connector is suspected.                                                                                                                                                                                                         |
| The audio signal from the PC is not output.                                                                                                                                       | A failure in the G-Link system or wrong connection of the cable to the PC connector is suspected.                                                                                                                                                                                                               |
| The picture-quality setting (AV Selection) is not stored.                                                                                                                         | The picture-quality setting is stored for each input. As the setting is changed when another input is selected, the user may have a false idea that the setting is not stored.                                                                                                                                  |
| The picture size changes arbitrary.                                                                                                                                               | The Auto Size setting is set to ON (default is OFF).                                                                                                                                                                                                                                                            |
| The display position of the screen slightly changes every time the unit is turned on.                                                                                             | The orbiter function for minimizing the effects of phosphor burn is activated. As ON/OFF of this function can only be changed on the Integrator menu, turning off of this function by a user is not possible.                                                                                                   |
| The video signal to the S video connector is not displayed.                                                                                                                       | Although S video input is selected on the menu, the cable is connected via a component video input connector whose function type is the same as S video input.                                                                                                                                                  |
| The video signal to the composite video connector is not displayed.                                                                                                               | Although the composite video input is selected on the menu, the cable is connected via a component video connector or S video connector whose function type is the same as the composite video input.                                                                                                           |

#### SUPPLEMENT: On the video setting for HDMI

There are three types of HDMI output formats: color difference 4:4:4, color difference 4:2:2, and RGB4:4:4.

(The proportions, such as 4:4:4 and 4:2:2, represent those of the amount of data for video signal components. For example, as for color difference 4:4:4, the proportion of the amount of data as for Y, Cb, and Cr is 4:4:4.)

It is required to make the settings of the PDP according to the settings of the output equipment. For usual operation, however, set them to AUTO. If the color is inappropriate, make the settings manually.

In the HDMI system, video signals are coded at 24 bits per pixel and transmitted as a series of 24-bit pixels. In a case of color difference 4:4:4, Y, Cb, and Cr use 8 bits each. In a case of color difference 4:2:2, Y, Cb, and Cr use 12 bits each, but Cb and Cr are transmitted at a half sampling rate of Y. This unit is capable of processing the upper 10 bits out of 12 bits of video data. Recent high-end DVD players, such as Pioneer DV-79AVi, are capable of outputting 10-bit color-difference signals. In general, it is said that picture quality for color difference 4:2:2 format is assumed to be higher, because human eyes are more sensitive to luminance than to colors. In the case of RGB4:4:4, R, G, and B use 8 bits each.

## 6.1 PCB LOCATION

A



C



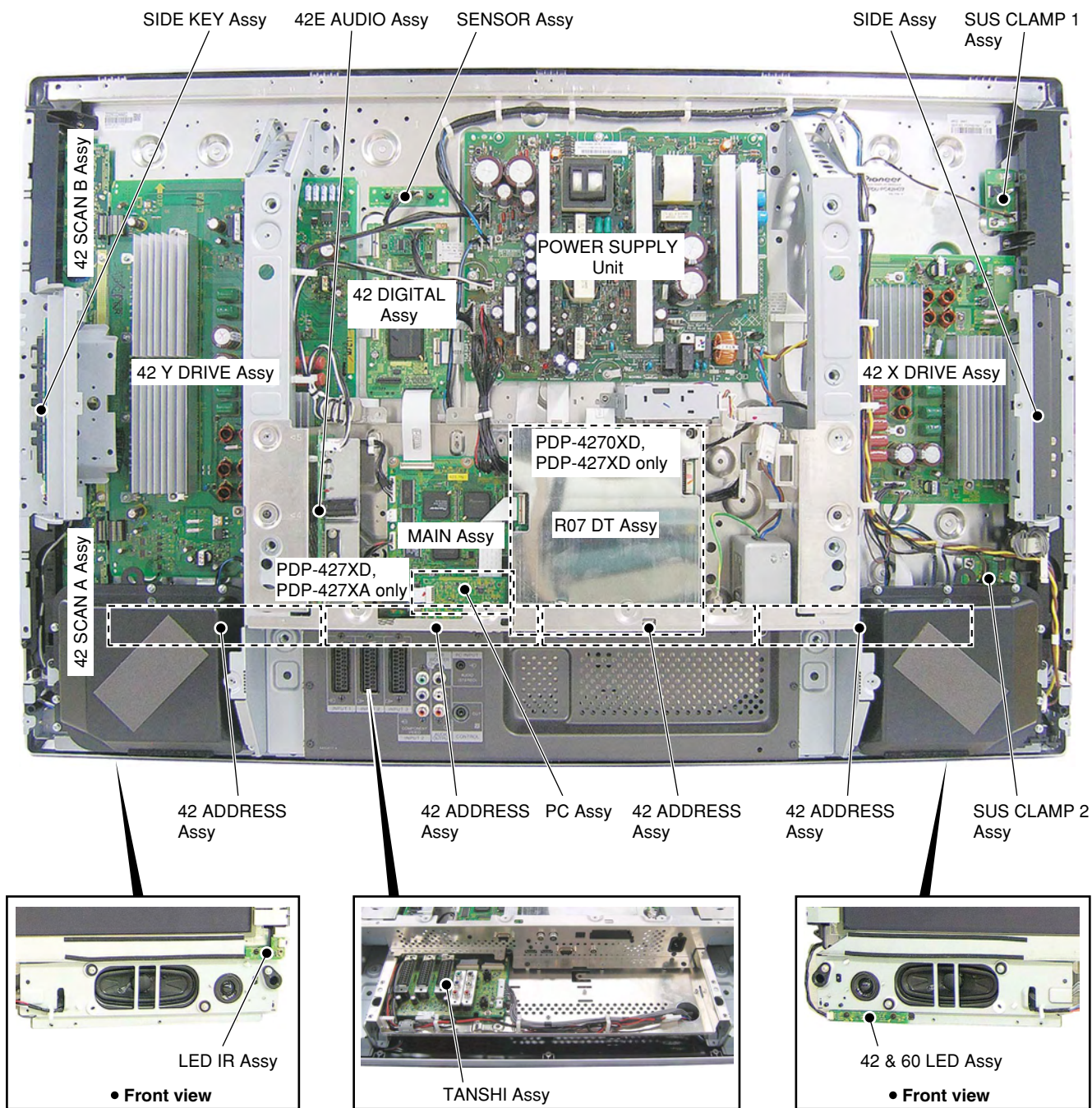
D



E



F



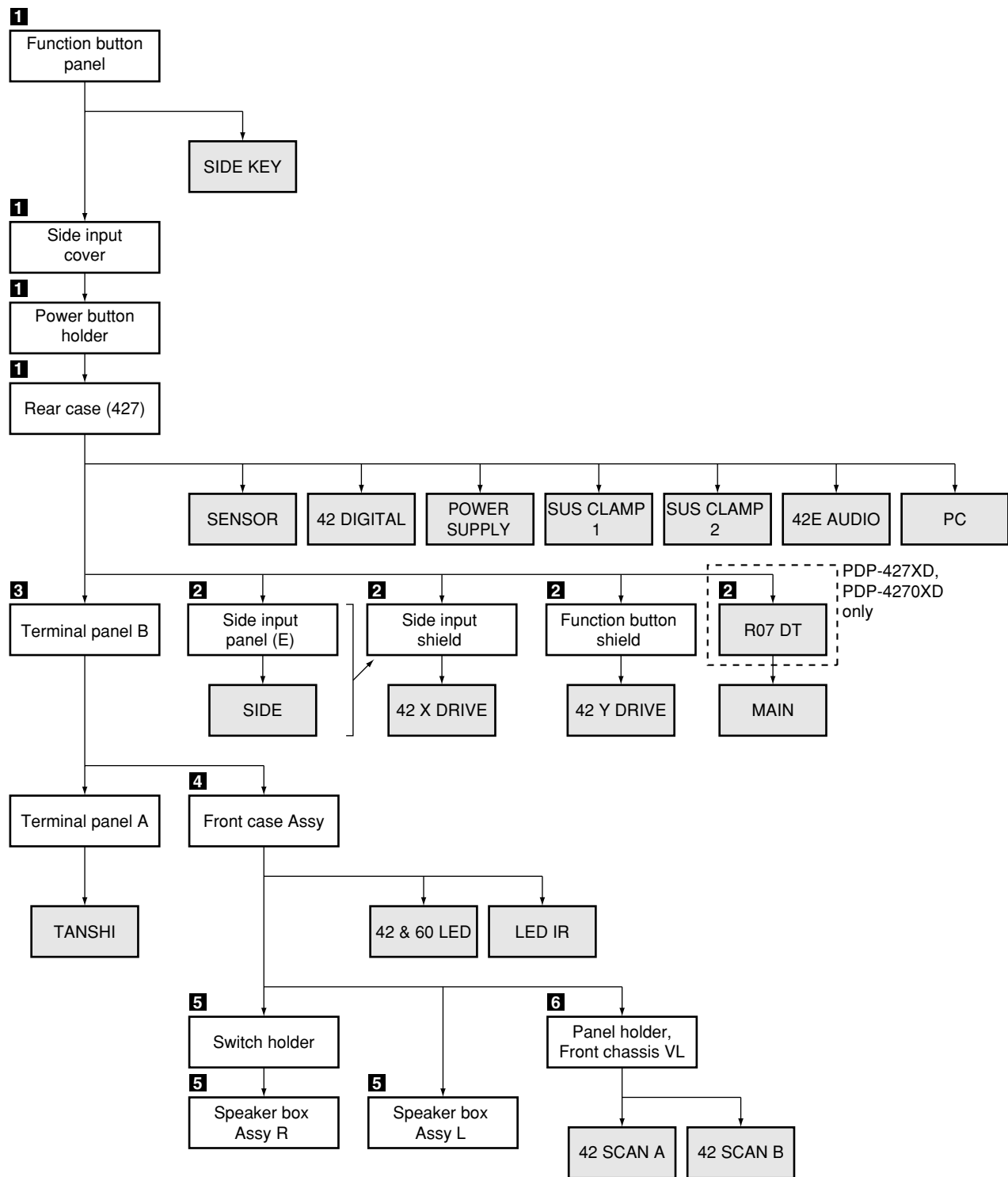
- **Rear view**

PDP-427XD

**Note:** Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

### Chart of removal order for the main parts and boards

It is efficient to proceed with removal of the main parts and boards in the order shown in the chart below:



A

## Disassembly

### 1 Rear Case (427)

#### ● Function button panel

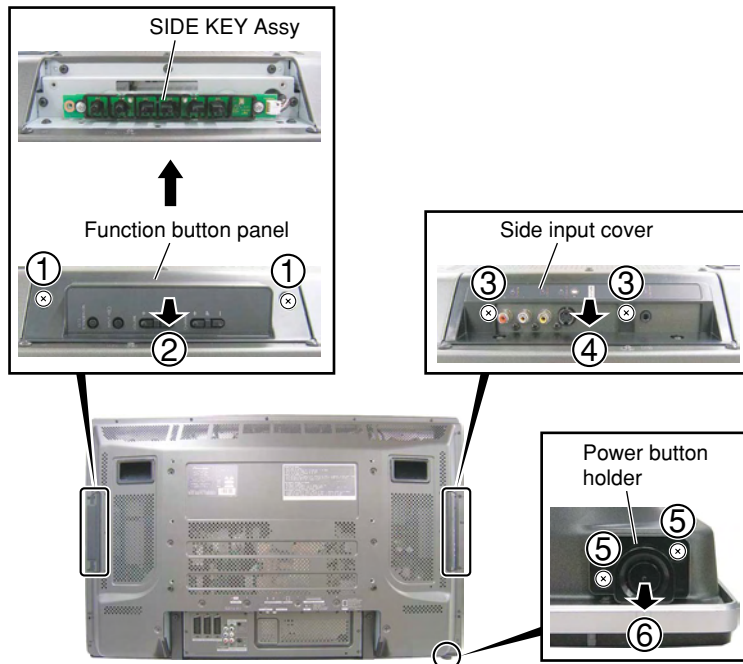
- ① Remove the two screws.
- ② Remove the function button panel.

#### ● Side input cover

- ③ Remove the two screws.
- ④ Remove the side input cover.

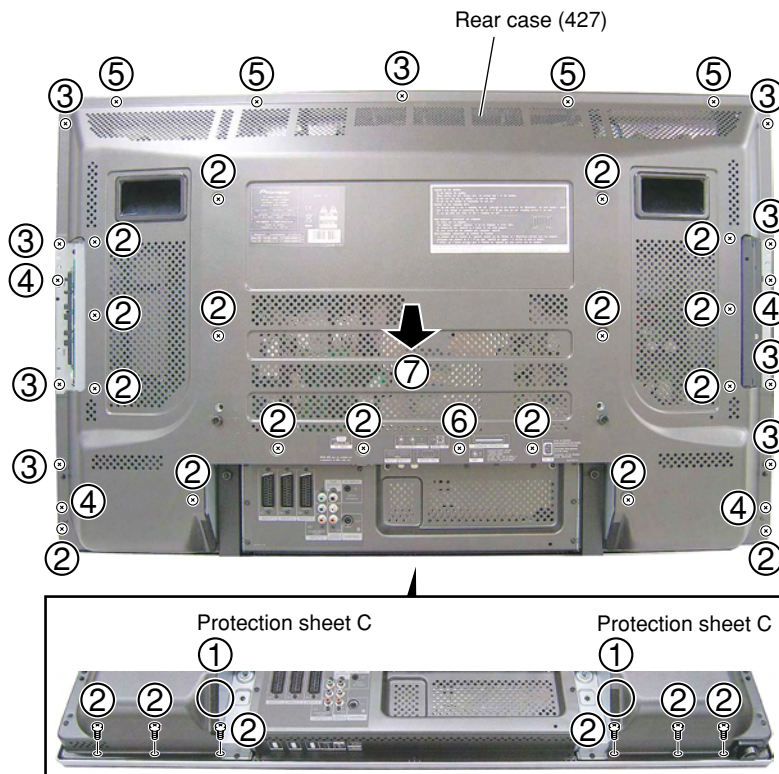
#### ● Power button holder

- ⑤ Remove the two screws.
- ⑥ Remove the power button holder.



#### ● Rear case (427)

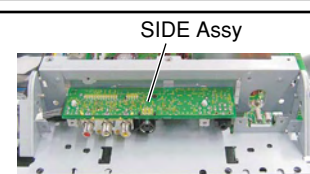
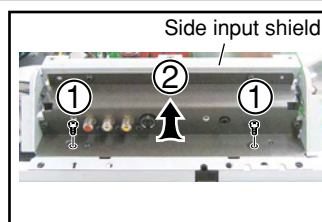
- ① Remove the two protection sheets C.
- ② Remove the 23 screws. (AMZ30P060FTB)
- ③ Remove the nine screws. (TBZ40P080FTB)
- ④ Remove the four screws. (ABA1332)
- ⑤ Remove the four screws. (ABA1353)
- ⑥ Remove the one screw. (ABA1341)
- ⑦ Remove the rear case (427).



## 2 Access to PCB Assys

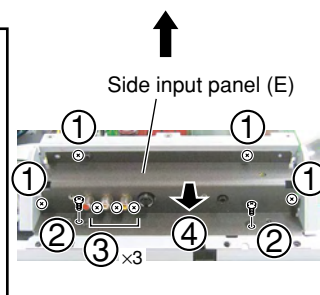
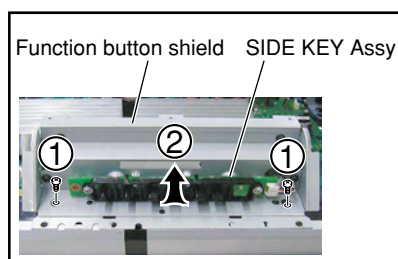
### ● SIDE Assy

- ① Remove the four screws.
- ② Remove the two screws.
- ③ Remove the three screws.
- ④ Remove the side input panel (E).



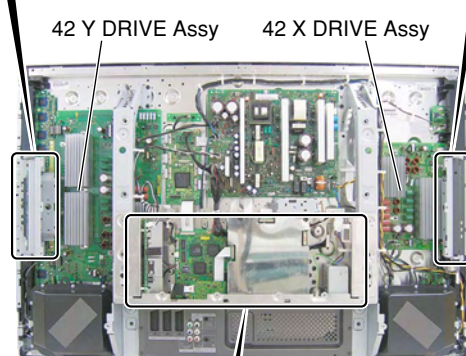
### ● 42 X DRIVE Assy

- ① Remove the two screws.
- ② Remove the side input shield with PCB.



### ● 42 Y DRIVE Assy

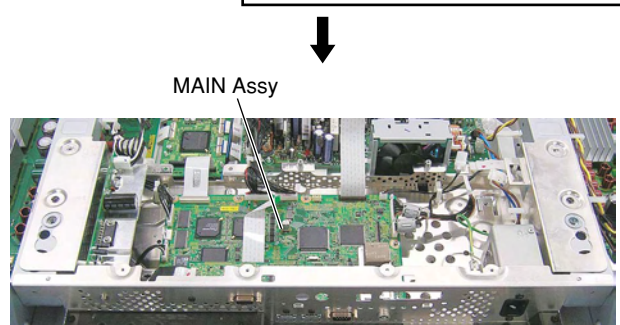
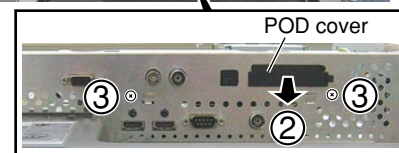
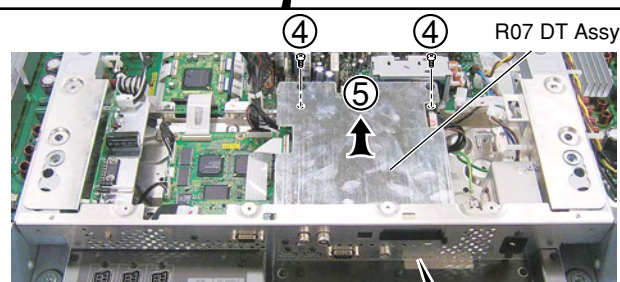
- ① Remove the two screws.
- ② Remove the function button shield with PCB.



### ● MAIN Assy

- ① Disconnect cables, connectors, as required.
- ② Remove the POD cover.
- ③ Remove the two screws.
- ④ Remove the two screws.
- ⑤ Remove the R07 DT Assy.

PDP-427XD,  
PDP-4270XD  
only

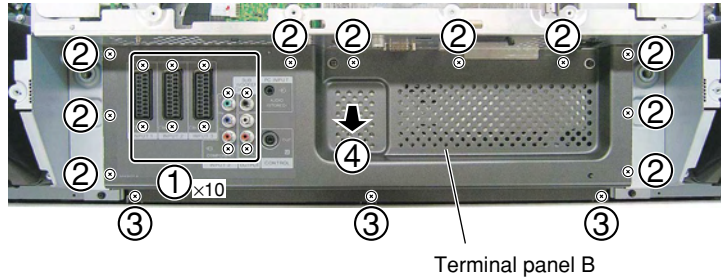


PDP-427XD

A

### 3 Terminal Panel B

- ① Remove the 10 screws.
- ② Remove the 10 screws.
- ③ Remove the three screws.
- ④ Remove the terminal panel B.



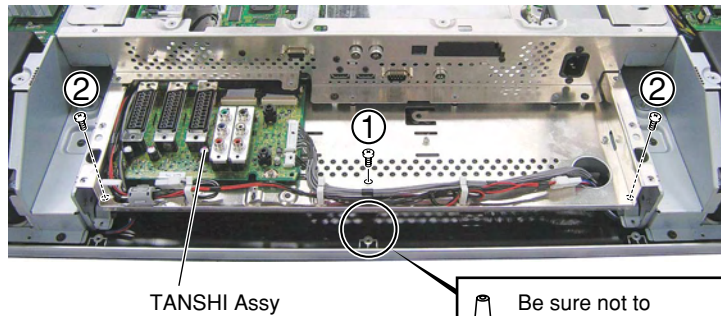
B



C

### 4 Front Case Assy

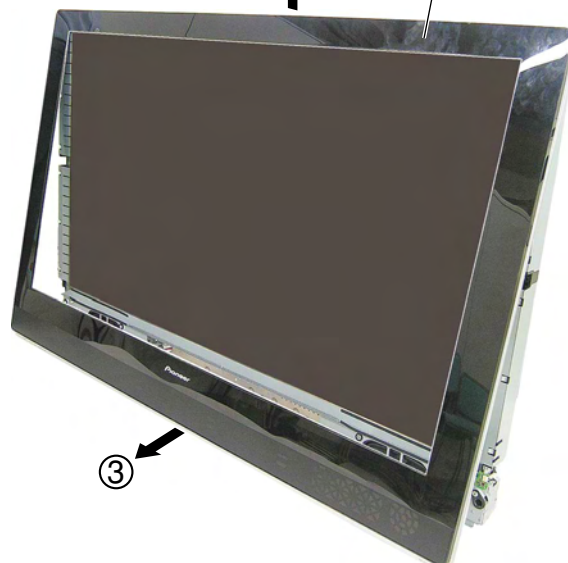
- ① Remove the one screw.
- ② Remove the two screws.



D

- ③ Pull the lower part of the Front case Assy toward you and out.
- ④ Remove the Front case Assy, by pulling it upward.

④ Front case Assy



F



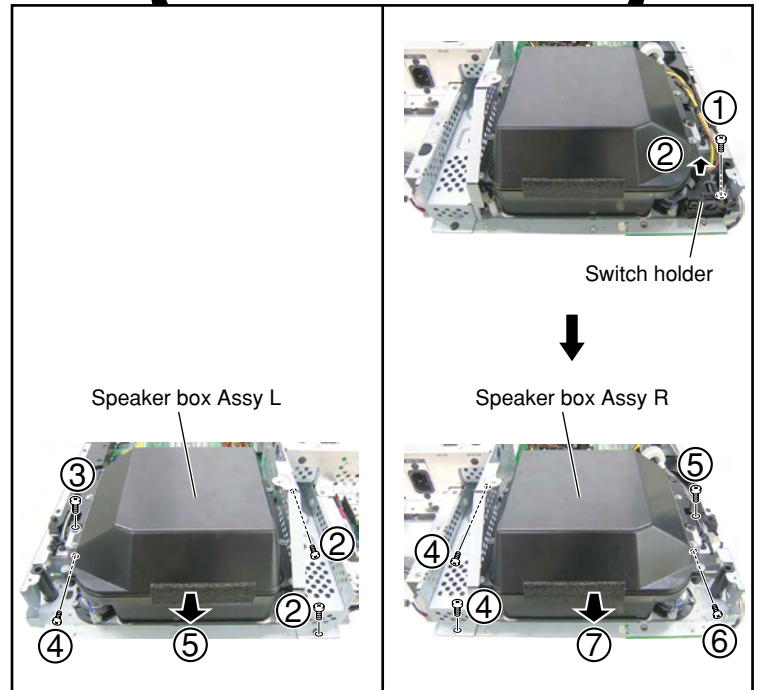
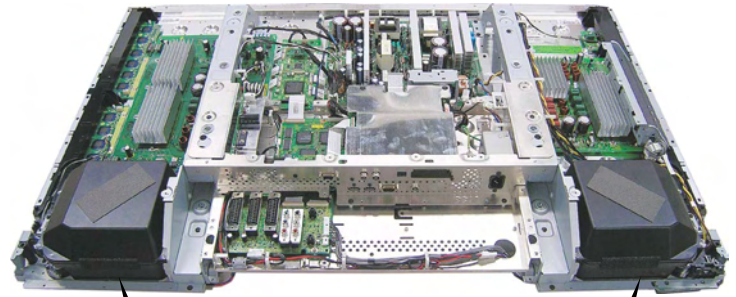
## 5 Speaker Box Assy L and R

### ● Speaker Box Assy L

- ① Disconnect cables, connectors, as required.
- ② Remove the two screws.
- ③ Remove the one screw.
- ④ Remove the one screw.
- ⑤ Remove the speaker box Assy L.

### ● Speaker Box Assy R

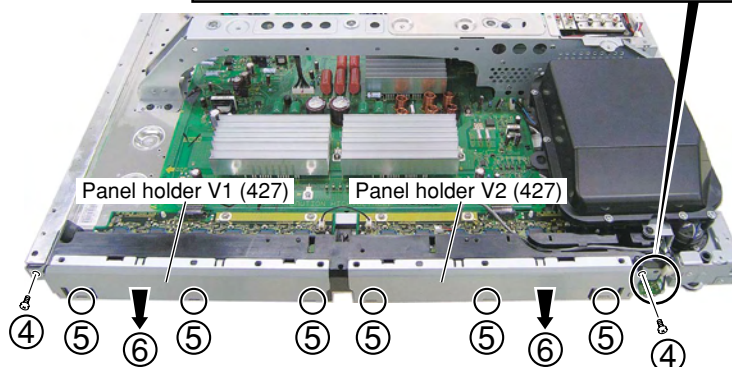
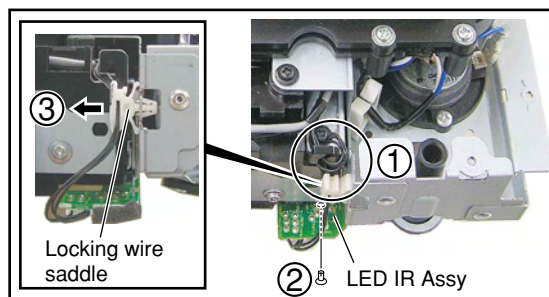
- ① Remove the one screw.
- ② Remove the switch holder.
- ③ Disconnect cables, connectors, as required.
- ④ Remove the two screws.
- ⑤ Remove the one screw.
- ⑥ Remove the one screw.
- ⑦ Remove the speaker box Assy R.



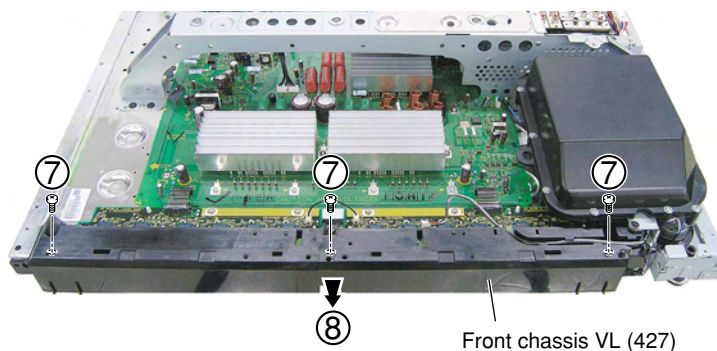
A

## 6 Exchange of SCAN IC

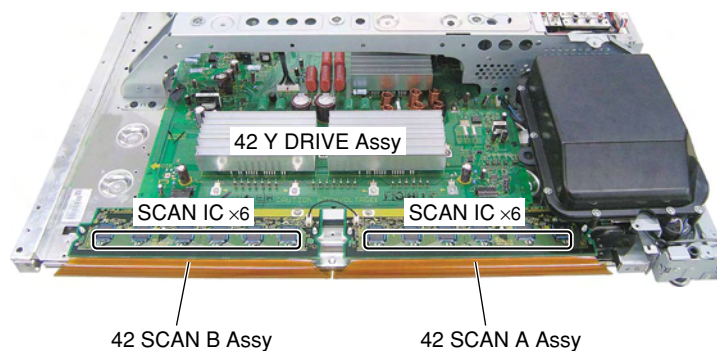
- ① Loosen the jumper wire.
- ② Remove the LED IR Assy by removing the one nylon rivet.
- ③ Remove the locking wire saddle.
- ④ Remove the two screws.
- ⑤ Unhook the six hooks.
- ⑥ Remove the panel holders V1 (427) and V2 (427).



- ⑦ Remove the three screws.
- ⑧ Remove the front chassis VL (427).



**Exchange**



## 7. ADJUSTMENT



1. At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
2. Any value changed in Service/Factory mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
3. Use a stable AC power supply.

### 7.1 ADJUSTMENT REQUIRED WHEN THE SET IS REPAIRED OR REPLACED

#### ■ When any of the following assemblies is replaced

|                                       |   |                                                                                                    |
|---------------------------------------|---|----------------------------------------------------------------------------------------------------|
| POWER SUPPLY Unit                     | ➡ | Refer to "7.4 HOW TO CLEAR HISTORY DATA".                                                          |
| DIGITAL Assy                          | ➡ | Writing of backup data is required.<br>Refer to the "7.3 BACKUP WHEN THE PANEL UNIT IS ADJUSTED. " |
| X MAIN DRIVE Assy                     | ➡ | No adjustment required                                                                             |
| X SUB DRIVE Assy                      | ➡ | No adjustment required                                                                             |
| Y MAIN DRIVE Assy                     | ➡ | No adjustment required                                                                             |
| Y SUB DRIVE Assy                      | ➡ | No adjustment required                                                                             |
| Service Panel Assy                    | ➡ | Refer to "7.5 ADJUSTMENTS WHEN THE SERVICE PANEL ASSY IS REPLACED."                                |
| MAIN Assy                             | ➡ | Switching to SR+ from RS-232C                                                                      |
| SENSOR Assy                           | ➡ | Writing of backup data is required.<br>Refer to the "7.3 BACKUP WHEN THE PANEL UNIT IS ADJUSTED. " |
| TANSHI Assy                           | ➡ | No adjustment required                                                                             |
| R07 DT Assy (PDP-427XD / 4270XD only) | ➡ | No adjustment required                                                                             |

## 7.2 ADJUSTMENT REQUIRED WHEN PART IS REPLACED

### A Notes on replacing parts

For the parts described in the list below, replacement is required for the whole Assy, not only the defective part.  
If any part listed below is identified as defective and needs replacement, replace the whole Assy, and make necessary adjustments after replacement.

**Reason:** The whole Assy must be replaced, because adjustments and data rewriting for the Assy at the level of production line are required.

| PCB Assy No.                                                             | Function Name   | Parts that Require Whole-Assy Replacement |                      |                |
|--------------------------------------------------------------------------|-----------------|-------------------------------------------|----------------------|----------------|
|                                                                          |                 | Ref No.                                   | Function Name        | Part No.       |
| AWW1240                                                                  | 42 DIGITAL Assy | IC3151                                    | Module microcomputer | AGC1011        |
|                                                                          |                 | IC3401                                    | Sequence IC          | PEG239A        |
|                                                                          |                 | IC3301                                    | Flash memory         | AGC1009        |
|                                                                          |                 | IC3156                                    | EEPROM               | BR24L04FJ-W    |
| AWW1140                                                                  | SENSOR Assy     | IC3652                                    | EEPROM               | BR24L02FJ-W    |
| AWV2318 (PDP-427XD and PDP-427XA)<br>AWV2320 (PDP-4270XD and PDP-4270XA) | MAIN Assy       | IC4603                                    | Flash ROM            | AGC1020        |
|                                                                          |                 | IC4701                                    | AV switch            | R2S11002AFT    |
|                                                                          |                 | IC4901                                    | RGB switch           | R2S11001FT     |
|                                                                          |                 | IC5101                                    | MAIN VDEC            | UPD64015GM-UEU |
|                                                                          |                 | IC5103                                    | SUB VDEC             | TVP5150AM1PBS  |
|                                                                          |                 | IC5301                                    | A/D Converter        | AD9985KSTZ-110 |
|                                                                          |                 | IC5403                                    | EEPROM               | BR24L02FJ-W    |
|                                                                          |                 | IC5404                                    | EEPROM               | BR24L02FJ-W    |
|                                                                          |                 | IC8202                                    | Flash ROM            | AGC1019        |
|                                                                          |                 | IC8301                                    | Flash UCOM           | AGC1016        |
|                                                                          |                 | IC8402                                    | Flash ROM            | AGC1018        |
|                                                                          |                 |                                           |                      |                |

POWER SUPPLY Unit

The assembly must be replaced as a unit, and no part replacement is allowed.

MAIN Assy

No adjustment is required after replacement of parts other than those mentioned above.

DIGITAL Assy

No adjustment is required after replacement of parts other than those mentioned above.

X MAIN DRIVE Assy

No adjustment is required after replacement of parts other than those shown in the following page.

X SUB DRIVE Assy

No adjustment required

Y MAIN DRIVE Assy

No adjustment is required after replacement of parts other than those shown in the following page.

Y SUB DRIVE Assy

No adjustment required

ADDRESS Assy

No adjustment required

SENSOR Assy

No adjustment is required after replacement of parts other than those mentioned above.

TANSHI Assy

No adjustment required

R07 DT Assy (PDP-427XD / 4270XD only)

The assembly must be replaced as a unit, and no part replacement is allowed.

## Outline

Adjustment data are stored in the EEPROM (IC3156/4K) on the DIGITAL Assy in the production process. Those adjustment data are also automatically stored in the EEPROM (for backup: IC3652) on the SENSOR Assy. If the DIGITAL Assy is replaced, those adjustment data for backup can be copied from the EEPROM on the SENSOR Assy to a new DIGITAL Assy.

## Backed up data

- Drive voltage adjustment value
- Hour-meter count
- Pulse-meter count
- Panel white balance adjustment value
- Serial No.
- Drive waveform adjustment value
- P-ON counter value
- PD/SD histories

## How to copy backup data

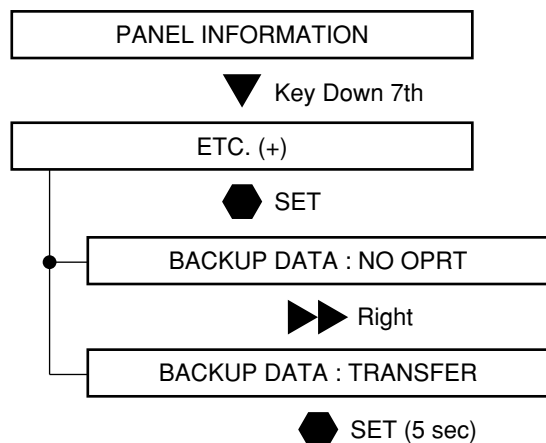
### 1. When the DIGITAL Assy is replaced with one for service (usual service)

Adjustment data can be restored by copying the data backed up in the SENSOR Assy to the EEPROM on a new DIGITAL Assy.

The EEPROM on the new DIGITAL Assy has no adjustment data, and the EEPROM for backup in the SENSOR Assy has adjustment data. After replacing the DIGITAL Assy, enter PANEL FACT. mode, display the PANEL INFORMATION page, then check if "NO DATA!" is set for "DIG. EEP" and "ADJUSTED" is set for "BACKUP". Then, proceed in the following steps:

#### (1) Copying, using the Factory menu

- ① Plug in the AC cord, press the Power switch on the unit to set it to ON, then enter Standby mode.
- ② Turn on the power, using the remote control unit, then enter Panel Factory mode.  
Copy the backup data, as shown in the figure below.



- ③ Turn the power off.
  - After the DIGITAL Assy is replaced with one for service, be sure to check if "NO DATA!" is set for "DIG. EEP" on the PANEL INFORMATION page of the PANEL FACT. mode.
  - If copying of the backup data fails in the above procedure, the red LED lights, and the blue LED flashes, as a warning that no backup data were copied.
  - If both the DIGITAL and SENSOR Assys are to be replaced, first replace the SENSOR Assy, turn the unit on and back off again, then replace the DIGITAL Assy.

#### (2) Copying, using the RS-232C commands

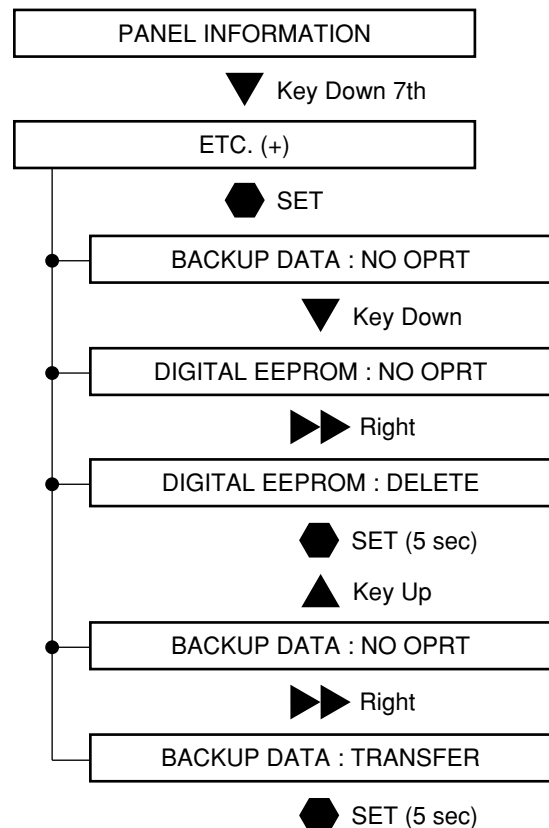
- ① Switch the RS-232C/SR+ setting to RS-232C so that RS-232C commands can be received.
- ② Turn on the unit, using the remote control unit or by issuing the PON command. Then issue the FAY command.
- ③ Issue the BCP command to transfer the data stored in the EEPROM for backup.
- ④ Turn the power off.

## 2. When a secondhand DIGITAL Assy that had been mounted in another product is to be reused

As adjustment data for another product are already stored in the secondhand DIGITAL Assy, first delete those data then copy the backup data stored in the EEPROM on the SENSOR Assy.

### (1) Copying, using the Factory menu

- ① Plug in the AC cord, press the Power switch on the unit to set it to ON, then enter Standby mode.
- ② Turn on the power, using the remote control unit, then enter Panel Factory mode.  
Copy the backup data, as shown in the figure below.



- ③ Turn the power off.

#### Note:

If the secondhand DIGITAL Assy is mounted in the product then the unit is turned on then back off again, the data in the EEPROM on the DIGITAL Assy are copied over the EEPROM in the SENSOR Assy. Thus the backup data can never be restored. During the first power-on after the DIGITAL Assy is replaced, be sure to enter Factory mode to copy the backup data. Or, before removing the secondhand DIGITAL Assy from the original product, delete the adjustment data on it, using the Factory mode (DIGITAL EEPROM: DELETE), mount it to the product to be repaired, then copy the data from the backup EEPROM.

### (2) Copying, using the RS-232C commands

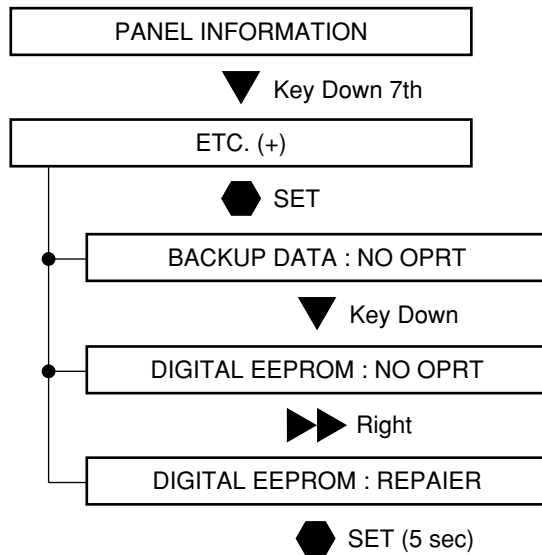
- ① Switch the RS-232C/SR+ setting to RS-232C so that RS-232C commands can be received.
- ② Turn on the unit, using the remote control unit or by issuing the PON command. Then issue the FAY command.
- ③ Issue the UAJ command to delete data stored in the EEPROM on the DIGITAL Assy.
- ④ Issue the BCP command to transfer the data stored in the EEPROM for backup.
- ⑤ Turn the power off.

### 3. In a case where normal backup data are not stored in the backup EEPROM because the EEPROM on the DIGITAL Assy is defective, etc., and where manually adjusted values are to be applied to the product

**Note:** In this section, it is assumed that settings for various items have been completed, using Factory menu or RS-232C commands.

#### (1) Method using the Factory menu

- ① Set various setting/adjustment values.
- ② Proceed in the following steps.



- ③ Turn the power off.

**Note:**

When a DIGITAL Assy with an EEPROM in which adjustment data are stored is mounted, this step is not required after manual adjustment. ("DIGITAL EEPROM: REPAIR" is not indicated.)

#### (2) Method using the RS-232C commands

Issue the FAJ command.

## 7.4 HOW TO CLEAR HISTORY DATA

### ■ Clearance of various logs after the Assys are replaced

Besides adjustment data, data on accumulated power-on time and logs on defective parts of the product are backed up. Some of those data must be cleared after the Assys are replaced for service.

#### (1) Clearance of logs, using the RS-232C commands

| Item               | Content                              | When the Panel is replaced  | When the POWER SUPPLY Unit is replaced | When the Other parts is replaced | RS-232C Commands |
|--------------------|--------------------------------------|-----------------------------|----------------------------------------|----------------------------------|------------------|
| Hour-meter         | Accumulated power-on time            | Must be cleared             | No need to be cleared                  | No need to be cleared            | CHM              |
| Pulse-meter        | Accumulated number of pulses emitted | Must be cleared (mandatory) | No need to be cleared                  | No need to be cleared            | CPM              |
| Shutdown history   | Cause of an SD and hour-meter count  | Must be cleared             | No need to be cleared                  | No need to be cleared            | CSD              |
| Power-down history | Cause of an PD and hour-meter count  | Must be cleared             | No need to be cleared                  | No need to be cleared            | CPD              |
| Power-on counter   | Relay-on count                       | No need to be cleared       | Must be cleared (mandatory)            | No need to be cleared            | CPC              |
| MAX TEMP           | Historical max. temperature          | Must be cleared             | Must be cleared                        | Must be cleared                  | CMT              |

**Notes:**

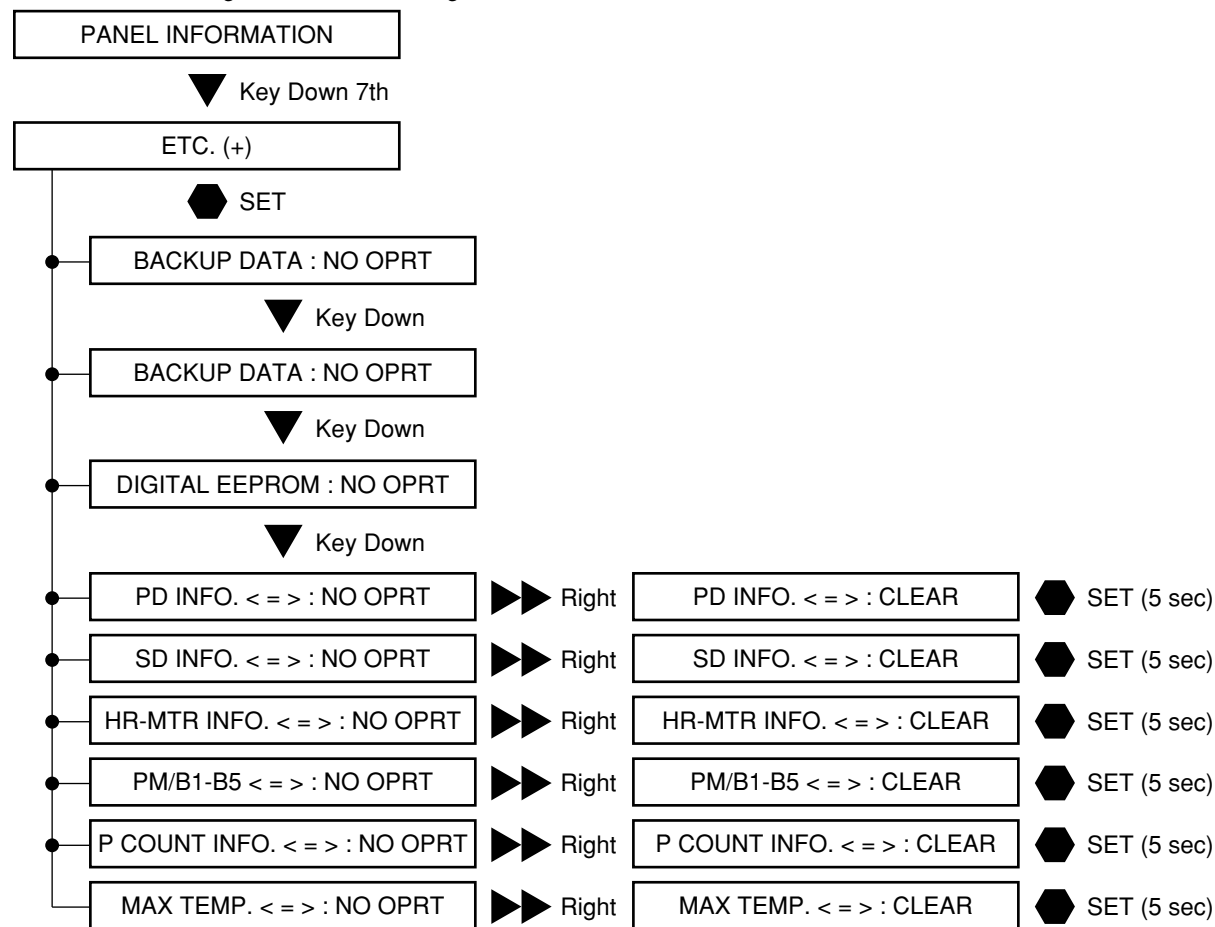
- As the pulse-meter count is used for each correction function, it must be cleared when an Assy relevant to correction functions is replaced.
- When clearing logs, using the RS-232C commands, first enter Factory mode (by issuing FAY or PFY), then issue the corresponding command.

#### (2) Clearance of logs, using the Factory menu

① Plug in the AC cord, press the Power switch on the unit to set it to ON, then enter Standby mode.

② Turn on the power, using the remote control unit, then enter Panel Factory mode.

Delete various logs, as shown in the figure below.



③ Turn the power off.

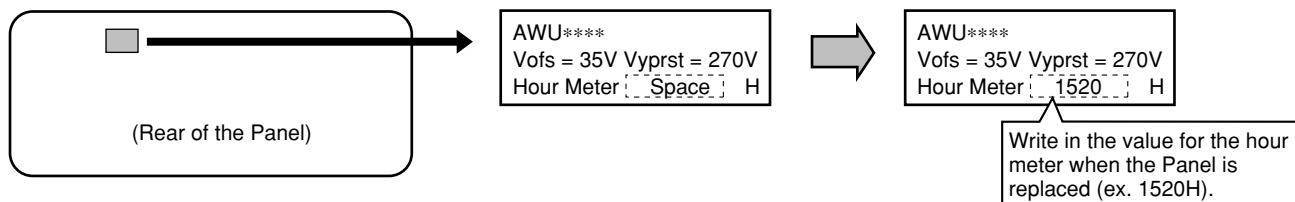
## 7.5 ADJUSTMENT WHEN THE SERVICE PANEL ASSY IS REPLACED

When the Panel Assy is replaced with one for service, the following adjustments are required:

### ■ Adjustments of Vofs voltage and Vyprst voltage

Enter the reference adjustment values for the Vofs voltage and Vyprst voltage that are written on the label attached to the panel for service.

Note: Enter the values, using an RS-232C command or the Factory Menu.



### Using an RS-232C command

Enter a "PFY" command with Factory mode ON.

Convert the adjustment voltage values written on the label attached at the rear of the Panel to an input command, referring to the conversion chart. (See the next page.)

- Reference adjustment of the Vofs voltage: Ex. "Vofs = 35" → (Check the conversion chart.) Enter "VOF112."
- Reference adjustment of the Vyprst voltage: Ex. "Vyprst = 270 V" → (Check the conversion chart.) Enter "VRP078."

### Using the Factory Menu

|    | 1               | 5                  | 10 | 15 | 20 | 25 | 30 | 32          |
|----|-----------------|--------------------|----|----|----|----|----|-------------|
| 1  | PANEL FACT.     | VD1-11601-NTV-EHB7 |    |    |    |    |    |             |
|    |                 |                    |    |    |    |    |    | [TBL1/60VS] |
| 5  |                 |                    |    |    |    |    |    |             |
| 10 |                 |                    |    |    |    |    |    |             |
| 15 | PANEL-1 ADJ (+) |                    |    |    |    |    |    |             |
| 16 |                 |                    |    |    |    |    |    |             |

|    | 1             | 5                  | 10 | 15 | 20 | 25 | 30 | 32          |
|----|---------------|--------------------|----|----|----|----|----|-------------|
| 1  | PANEL FACT.   | VD1-11601-NTV-EHB7 |    |    |    |    |    |             |
|    | PANEL-1 ADJ   |                    |    |    |    |    |    | [TBL1/60VS] |
| 5  |               |                    |    |    |    |    |    |             |
| 10 |               |                    |    |    |    |    |    |             |
| 15 | VOL RST P <=> |                    |    |    |    |    |    | : 058       |
| 16 |               |                    |    |    |    |    |    |             |

Select the main item "PANEL FACT." by pressing the MUTE key then enter Panel Factory mode by pressing the SET key.

Using the ▲/▼ keys, select "PANEL-1 ADJ" then press the SET key to enter the next lower nested layer.

Select "VOL-OFFSET" or "VOL RST P" then enter a command value converted from the voltage value, using the ◀/▶ keys.

### ■ Clearing data on various histories of the Panel, such as those on the hour meter

- It is necessary to clear the data on the hour meter, etc. to match them to the actual driving hours of the Panel.
- It is also necessary to clear the data on SD and PD, because the accumulated power-on time when a shutdown or power-down occurred is recorded.

**Note:** Clear the values, using an RS-232C command or the Factory Menu.

There are two types of hour meters. Do not take the MTB hour meter for the hour meter.

### Using an RS-232C command

To acquire the accumulated power-on time of the product itself, use the "QS2" of RS-232C command.

1. To clear the data on the hour meter (for the Panel) : CHM
2. To clear the data on the pulse meter : CPM
3. To clear the data on the SD history : CSD
4. To clear the data on the PD history : CPD

### Using the Factory Menu

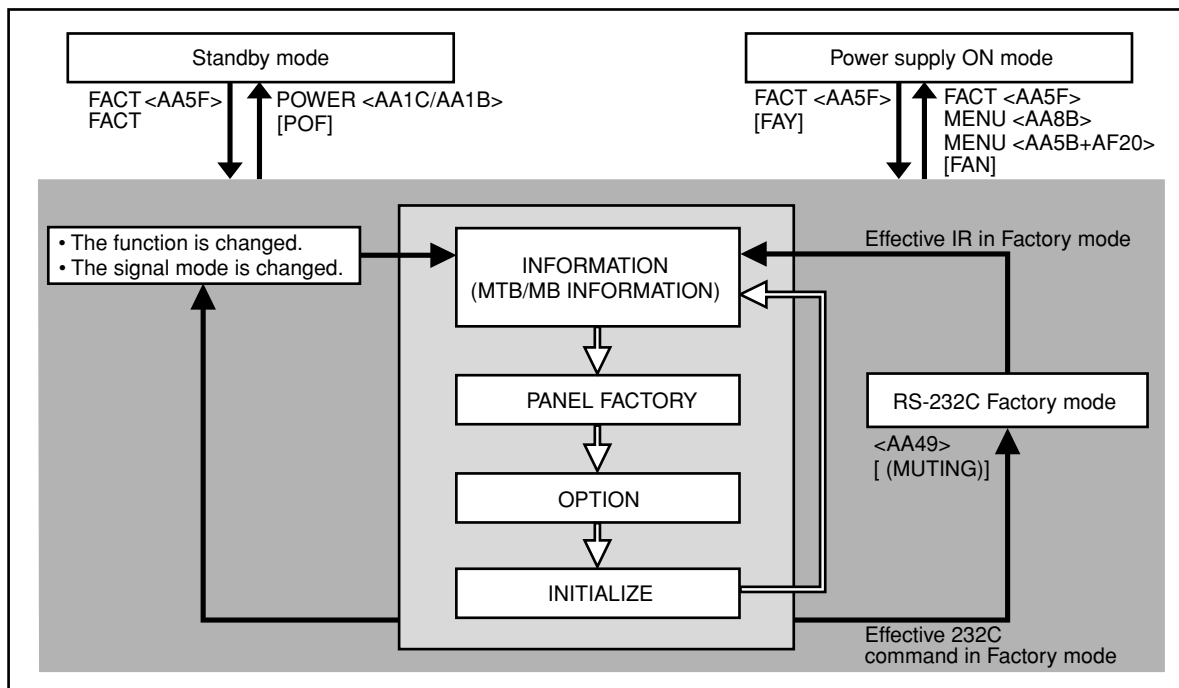
See "7.4 HOW TO CLEAR HISTORY DATA."

A

# Conversion charts for electronic VRs (Vprst/Vofs)

| Vprst<br>[ V ] | Setting value<br>[ STEP ] | Vprst<br>[ V ] | Setting value<br>[ STEP ] | Vprst<br>[ V ] | Setting value<br>[ STEP ] | Vofs<br>[ V ] | Setting value<br>[ STEP ] | Vofs<br>[ V ] | Setting value<br>[ STEP ] |
|----------------|---------------------------|----------------|---------------------------|----------------|---------------------------|---------------|---------------------------|---------------|---------------------------|
| 236            | 000                       | 280            | 101                       | 324            | 202                       | 14            | 000                       | 58            | 235                       |
| 237            | 002                       | 281            | 103                       | 325            | 204                       | 15            | 005                       | 59            | 241                       |
| 238            | 004                       | 282            | 105                       | 326            | 207                       | 16            | 010                       | 60            | 246                       |
| 239            | 006                       | 283            | 108                       | 327            | 209                       | 17            | 015                       | 61            | 251                       |
| 240            | 009                       | 284            | 110                       | 328            | 211                       | 18            | 021                       | 62            | 255                       |
| 241            | 011                       | 285            | 112                       | 329            | 214                       | 19            | 027                       |               |                           |
| 242            | 013                       | 286            | 115                       | 330            | 216                       | 20            | 032                       |               |                           |
| 243            | 016                       | 287            | 117                       | 331            | 218                       | 21            | 037                       |               |                           |
| 244            | 018                       | 288            | 119                       | 332            | 220                       | 22            | 043                       |               |                           |
| 245            | 020                       | 289            | 121                       | 333            | 223                       | 23            | 048                       |               |                           |
| 246            | 022                       | 290            | 124                       | 334            | 225                       | 24            | 053                       |               |                           |
| 247            | 025                       | 291            | 126                       | 335            | 227                       | 25            | 059                       |               |                           |
| 248            | 027                       | 292            | 128                       | 336            | 230                       | 26            | 064                       |               |                           |
| 249            | 029                       | 293            | 131                       | 337            | 232                       | 27            | 069                       |               |                           |
| 250            | 032                       | 294            | 133                       | 338            | 234                       | 28            | 075                       |               |                           |
| 251            | 034                       | 295            | 135                       | 339            | 237                       | 29            | 080                       |               |                           |
| 252            | 036                       | 296            | 138                       | 340            | 239                       | 30            | 085                       |               |                           |
| 253            | 039                       | 297            | 140                       | 341            | 241                       | 31            | 091                       |               |                           |
| 254            | 041                       | 298            | 142                       | 342            | 243                       | 32            | 096                       |               |                           |
| 255            | 043                       | 299            | 144                       | 343            | 246                       | 33            | 101                       |               |                           |
| 256            | 045                       | 300            | 147                       | 344            | 248                       | 34            | 107                       |               |                           |
| 257            | 048                       | 301            | 149                       | 345            | 250                       | 35            | 112                       |               |                           |
| 258            | 050                       | 302            | 151                       | 346            | 253                       | 36            | 118                       |               |                           |
| 259            | 052                       | 303            | 154                       | 347            | 255                       | 37            | 123                       |               |                           |
| 260            | 055                       | 304            | 156                       |                |                           | 38            | 128                       |               |                           |
| 261            | 057                       | 305            | 158                       |                |                           | 39            | 134                       |               |                           |
| 262            | 059                       | 306            | 161                       |                |                           | 40            | 139                       |               |                           |
| 263            | 062                       | 307            | 163                       |                |                           | 41            | 144                       |               |                           |
| 264            | 064                       | 308            | 165                       |                |                           | 42            | 150                       |               |                           |
| 265            | 066                       | 309            | 168                       |                |                           | 43            | 155                       |               |                           |
| 266            | 069                       | 310            | 170                       |                |                           | 44            | 160                       |               |                           |
| 267            | 071                       | 311            | 172                       |                |                           | 45            | 166                       |               |                           |
| 268            | 073                       | 312            | 174                       |                |                           | 46            | 171                       |               |                           |
| 269            | 075                       | 313            | 177                       |                |                           | 47            | 176                       |               |                           |
| 270            | 078                       | 314            | 179                       |                |                           | 48            | 182                       |               |                           |
| 271            | 080                       | 315            | 181                       |                |                           | 49            | 187                       |               |                           |
| 272            | 082                       | 316            | 184                       |                |                           | 50            | 192                       |               |                           |
| 273            | 085                       | 317            | 186                       |                |                           | 51            | 198                       |               |                           |
| 274            | 087                       | 318            | 188                       |                |                           | 52            | 203                       |               |                           |
| 275            | 089                       | 319            | 191                       |                |                           | 53            | 209                       |               |                           |
| 276            | 092                       | 320            | 193                       |                |                           | 54            | 214                       |               |                           |
| 277            | 094                       | 321            | 195                       |                |                           | 55            | 219                       |               |                           |
| 278            | 096                       | 322            | 197                       |                |                           | 56            | 225                       |               |                           |
| 279            | 098                       | 323            | 200                       |                |                           | 57            | 230                       |               |                           |

### 8.1.1 SERVICE FACTORY MODE TRANSITION CHART



## ■ How to enter Service Factory Mode

- Remote control unit for servicing : Press [FACTORY1] key.

- By issuing RS-232C commands )

- During normal operation mode : Issue [FAY].

By using a remote control unit for servicing)

- Remote control unit for servicing : press [FACTORY1] key.

- By issuing RS-232C commands)

- Issue [FAN].

- 10046 [17, 18].

### ■ Functions whose setting are set to OFF

| No. | Function           | Remarks                                                  |
|-----|--------------------|----------------------------------------------------------|
| 1   | 2-Screen Operation | Input function set on the main side is selected          |
| 2   | FREEZE             |                                                          |
| 3   | Mask Control       | MTB/MB is none. It becomes processing on the PANEL side. |
| 4   | ORBITER            | Central value operation                                  |

User data will be treated as follows :

- User data on picture-quality and audio-quality adjustments are not reflected, and factory-preset data are output (user data will be retained in memory). When the unit enters Service Factory mode, the current audio-quality adjustment data will be still be retained in memory.
- As to data on various settings, user data will be applied to the items that are associated with signal format change (screenize switching, etc).
- Data on screen (i.e., screen position; meaning clock dividers, and not including data on screen size). Are reset to the default values (data stored in memory will be retained).  
Screen size will be retained.

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| SR/R Keys            | Basic Functions                  | Remarks                                                       |
|----------------------|----------------------------------|---------------------------------------------------------------|
| MUTING               | Switching the main items.        | Shifting to the next main item (top).                         |
| ↓ (DOWN) (Note1)     | Switching the subtitled items.   | Shifting downward to the next subtitled item.                 |
| ↑ (UP) (Note1)       | Switching the subtitled items.   | Shifting upward to the next upper layer.                      |
| ← (LEFT) (Note1)     | Decreasing the adjustment value. | Decreasing the adjustment value.                              |
| → (RIGHT) (Note1)    | Increasing the adjustment value. | Increasing the adjustment value.                              |
| ENTER/SET (Note1)    | Switching the layers.            | Shifting downward or upward to the next lower or upper layer. |
| INPUT                | Selecting INPUT.                 | Shifting the INPUT to the next function.                      |
| INPUTxx (Note1)      | Selecting INPUT.                 | Switching the INPUT to xx. (xx=1 to 6 etc)                    |
| CH+/P+               | Increasing the channel number.   | Advanving                                                     |
| CH-/P-               | Decreasing the channel number.   |                                                               |
| Numeric Keys         | Function: TV                     | Function: TV (previously selected channel number is selected) |
| POWER                | Power OFF.                       | Turning the power off.                                        |
| FACTORY              | Factory OFF (Factory mode)       | In Factory mode, turning Factory mode off.                    |
|                      | Factory ON (Non-Factory mode).   | In Non-Factory mode, turn Fuctory mode on.                    |
| HOME MENU (Note1)    | Menu ON.                         | In Factory mode, turn Factory mode off.                       |
| VOLUME+              | Volume UP.                       | Increasing 10 the adjustment value. (PANEL FACTORY)           |
| VOLUME-              | Volume DOWN.                     | Decreasing 10 the adjustment value. (PANEL FACTORY)           |
| DRIVE ON/OFF (Note2) | Drive Mode OFF.                  | Turning Drive mode off.                                       |
| INTEGRATOR (Note1)   | INTEGRATOR MENU ON.              | Enter INTEGRATOR MODE.                                        |

- (Note 1) A pertinent key that exists in the service remote control becomes effective only in the factory mode and the integrator mode.  
Please use the remote control of the attachment when you normally operate it in the mode (home menu operation etc.).
- (Note 2) When ten seconds have passed since the [DRIVE ON/OFF] key was pressed at the standby, it becomes invalid.  
Please press [POWER] key from the [DRIVE ON/OFF] key pressing within ten seconds when you do power supply ON while driven OFF.

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## 8.1.5 FACTORY HIERARCHICAL TABLE

| Large Item              |                                |                      | Variable / Adjustment Range                                    | Remarks                                                   |
|-------------------------|--------------------------------|----------------------|----------------------------------------------------------------|-----------------------------------------------------------|
|                         | Middle Item                    | Small Item           |                                                                |                                                           |
|                         |                                |                      |                                                                |                                                           |
| 8.2.1 INFORMATION       |                                |                      |                                                                |                                                           |
|                         | 8.2.1.1 VERSION (1)            |                      |                                                                |                                                           |
|                         | 8.2.1.2 VERSION (2)            |                      |                                                                |                                                           |
|                         | 8.2.1.3 MAIN NG                | CLEAR <=>            | OFF <=> ON                                                     |                                                           |
|                         | 8.2.1.4 TEMPERATURE            |                      |                                                                |                                                           |
|                         | 8.2.1.5 HOUR METER             |                      |                                                                |                                                           |
|                         | 8.2.1.6 HDMI SIGNAL INFO 1     |                      |                                                                |                                                           |
|                         | 8.2.1.7 HDMI SIGNAL INFO 2     |                      |                                                                |                                                           |
|                         | 8.2.1.8 VDEC SIGNAL INFO       |                      |                                                                |                                                           |
| 8.2.2 PANEL FACTORY (+) |                                |                      |                                                                |                                                           |
|                         | 8.2.2.1 PANEL INFORMATION      |                      |                                                                |                                                           |
|                         | 8.2.2.2 PANEL WORKS            |                      |                                                                |                                                           |
|                         | 8.2.2.3 POWER DOWN             |                      |                                                                |                                                           |
|                         | 8.2.2.4 SHUT DOWN              |                      |                                                                |                                                           |
|                         | 8.2.2.5 PANEL-1 ADJ (+)        | X-SUS B <=>          | 120 to 136                                                     | Equivalent to XSB                                         |
|                         |                                | Y-SUS B <=>          | 120 to 136                                                     | Equivalent to YSB                                         |
|                         |                                | Y-SUSTAIL T1 <=>     | 120 to 136                                                     | Equivalent to YTG                                         |
|                         |                                | Y-SUSTAIL T2 <=>     | 120 to 136                                                     | Equivalent to YTB                                         |
|                         |                                | Y-SUSTAIL W <=>      | 120 to 136                                                     | Equivalent to YTW                                         |
|                         |                                | XY-RST W1 <=>        | 120 to 136                                                     | Equivalent to RSW                                         |
|                         |                                | XY-RST W2 <=>        | 120 to 136                                                     | Equivalent to RYW                                         |
|                         |                                | VOL SUS <=>          | 000 to 255                                                     | Equivalent to VSU                                         |
|                         |                                | VOL OFFSET <=>       | 000 to 255                                                     | Equivalent to VOF                                         |
|                         |                                | VOL RST P <=>        | 000 to 255                                                     | Equivalent to VRP                                         |
|                         |                                | SUS FREQ. <=>        | MODE 1 to MODE 8                                               | Equivalent to SFR                                         |
|                         | 8.2.2.6 PANEL-2 ADJ (+)        | R-HIGH <=>           | 000 to 511                                                     | Equivalent to PRH                                         |
|                         |                                | G-HIGH <=>           | 000 to 511                                                     | Equivalent to PGH                                         |
|                         |                                | B-HIGH <=>           | 000 to 511                                                     | Equivalent to PBH                                         |
|                         |                                | R-LOW <=>            | 000 to 999                                                     | Equivalent to PRL                                         |
|                         |                                | G-LOW <=>            | 000 to 999                                                     | Equivalent to PGL                                         |
|                         |                                | B-LOW <=>            | 000 to 999                                                     | Equivalent to PBL                                         |
|                         |                                | ABL <=>              | 000 to 255                                                     | Equivalent to ABL                                         |
|                         | 8.2.2.7 PANEL REVISE (+)       | R-LEVEL <=>          | LV-0 to LV-7                                                   | Equivalent to RRL                                         |
|                         |                                | G-LEVEL <=>          | LV-0 to LV-7                                                   | Equivalent to RGL                                         |
|                         |                                | B-LEVEL <=>          | LV-0 to LV-7                                                   | Equivalent to RBL                                         |
|                         | 8.2.2.8 ETC. (+)               | BACKUP DATA <=>      | NO OPRT <=> TRANSFER or ERR                                    | Equivalent to BCP                                         |
|                         |                                | DIGITAL EEPROM <=>   | NO OPRT <=> DELETE/REPAIR                                      | Equivalent to FAJ/UAJ                                     |
|                         |                                | PD INFO. <=>         | NO OPRT <=> CLEAR                                              | Equivalent to CPD                                         |
|                         |                                | SD INFO. <=>         | NO OPRT <=> CLEAR                                              | Equivalent to CSD                                         |
|                         |                                | HR-MTR INFO. <=>     | NO OPRT <=> CLEAR                                              | Equivalent to CHM                                         |
|                         |                                | PM/B1-B5 <=>         | NO OPRT <=> CLEAR                                              | Equivalent to CPM                                         |
|                         |                                | P COUNT INFO. <=>    | NO OPRT <=> CLEAR                                              | Equivalent to CPC                                         |
|                         |                                | MAX TEMP. <=>        | NO OPRT <=> CLEAR                                              | Equivalent to CMT                                         |
|                         | 8.2.2.9 RASTER MASK SETUP (+)  | MASK OFF             |                                                                | Equivalent to MKS+S00                                     |
|                         |                                | RST MASK 01 <=>      | <=> 48V <=> 50V <=> 60V <=><br>60P <=> 70P <=> 72V <=> 75V <=> | Equivalent to MKS+S51                                     |
|                         |                                | ...                  |                                                                | ...                                                       |
|                         |                                | RST MASK 24 <=>      |                                                                | Equivalent to MKS+S74                                     |
|                         | 8.2.2.10 PATTEN MASK SETUP (+) | MASK OFF             |                                                                | Equivalent to MKS+S00                                     |
|                         |                                | PTN MASK 01 <=>      | <=> 48V <=> 50V <=> 60V <=><br>60P <=> 70P <=> 72V <=> 75V <=> | Equivalent to MKS+S01                                     |
|                         |                                | ...                  |                                                                | ...                                                       |
|                         |                                | PTN MASK 39 <=>      |                                                                | Equivalent to MKS+S39                                     |
|                         | 8.2.2.11 COMBI MASK SETUP (+)  | MASK OFF             |                                                                | Equivalent to MKC+S00                                     |
|                         |                                | CMB MASK 01 <=>      | <=> 48V <=> 50V <=> 60V <=><br>60P <=> 70P <=> 72V <=> 75V <=> | Equivalent to MKC+S01                                     |
|                         |                                | ...                  |                                                                | ...                                                       |
|                         |                                | CMB MASK 10 <=>      |                                                                | Equivalent to MKC+S10                                     |
| 8.2.3 OPTION            |                                |                      |                                                                |                                                           |
|                         | 8.2.3.1 EDID WRITE MODE <=>    |                      |                                                                | Exclusively used for production line                      |
|                         | 8.2.3.2 CH PRESET <=>          |                      |                                                                |                                                           |
| 8.2.4 INITIALIZE        |                                |                      |                                                                |                                                           |
|                         | 8.2.4.1 SYNC DET (+)           |                      |                                                                | for the technical analysis                                |
|                         | 8.2.4.2 SG MODE <=>            |                      | SG OFF <=> ...                                                 |                                                           |
|                         | 8.2.4.3 SG PATTERN <=>         |                      | SG PATTERN <=> COLOR BAR 1 ...                                 |                                                           |
|                         | 8.2.4.4 SIDE MASK LEVEL (+)    | R MASK LEVEL <=>     | 000 to 255                                                     |                                                           |
|                         |                                | G MASK LEVEL <=>     | 000 to 255                                                     |                                                           |
|                         |                                | B MASK LEVEL <=>     | 000 to 255                                                     |                                                           |
|                         |                                |                      |                                                                |                                                           |
|                         | 8.2.4.5 FINAL SETUP (+)        | DATA RESET <=>       | OFF <=> ON                                                     |                                                           |
|                         | 8.2.4.6 CVT AUTO <=>           |                      |                                                                |                                                           |
|                         | 8.2.4.7 HDMI INTR POSITION (+) | INTR-POS1 (0x75) <=> | 000 to 255                                                     | Exclusively used for technical analysis (details omitted) |
|                         |                                | INTR-POS2 (0x76) <=> | 000 to 255                                                     |                                                           |
|                         |                                | INTR-POS3 (0x77) <=> | 000 to 255                                                     |                                                           |
|                         |                                | INTR-POS4 (0x78) <=> | 000 to 255                                                     |                                                           |

1 2 3 4

# 8.1.6 INDICATIONS IN SERVICE FACTORY MODE

A

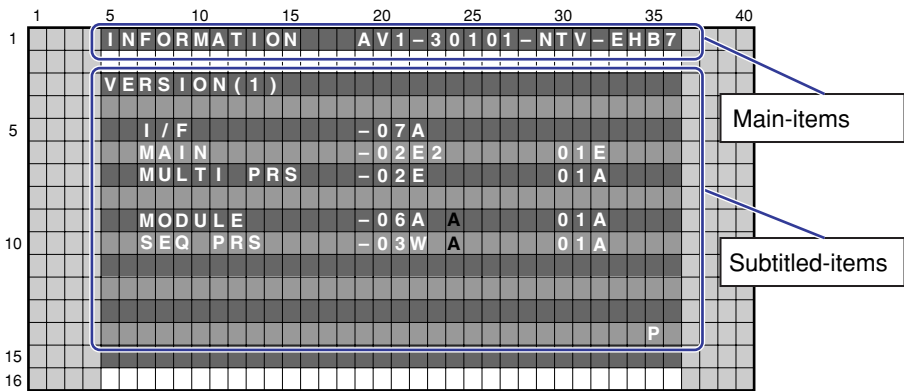
B

C

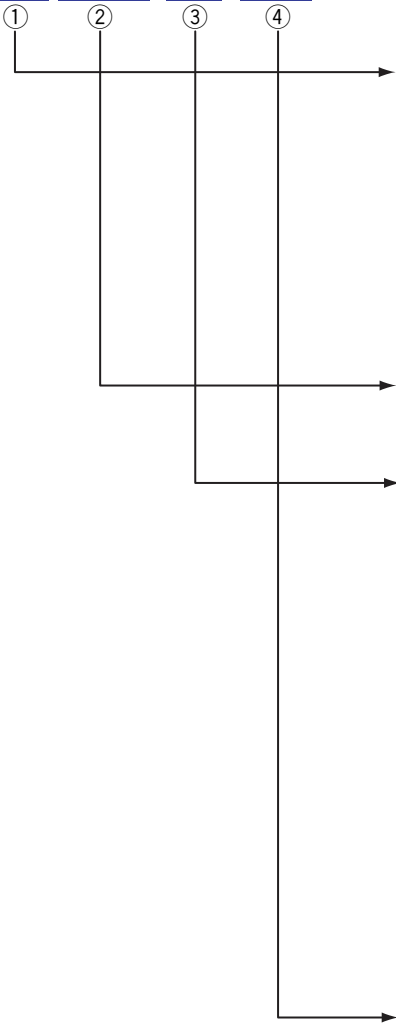
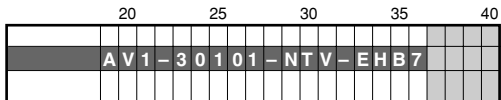
D

E

F



## Main-item indications



### ① Input function

| Input Functions           | OSD       |
|---------------------------|-----------|
| AV 1 to 4                 | AV 1 to 4 |
| AV 5 (Step-up model only) | AV5       |
| Terrestrial Analog Wave   | AIR       |
| Terrestrial Digital Wave  | ARD       |
| Cable                     | CBL       |
| PC (Step-up model only)   | PC        |

### ② SIG mode and Screen size

Note: See SIG-Mode Tables. (See next page.)

### ③ Color system and Signal type

| Color System and Signal Type | OSD1 | OSD2 |
|------------------------------|------|------|
| NTSC                         | NTV  | NTS  |
| PAL                          | PLV  | PLS  |
| PAL M                        | PMV  | PMS  |
| PAL N                        | PNV  | PNS  |
| SECAM                        | SCV  | SCS  |
| 4.43 NTSC                    | 4NV  | 4NS  |
| BLACK/WHITE                  | BWV  | BWS  |
| Y/CB/CR                      | CBR  |      |
| Y/PB/PR                      | PBR  |      |
| RGB                          | RGB  |      |
| Digital Video signal         | DIG  |      |

Note: OSD1 (Composite input), OSD2 (S-Connector input)

### ④ Option (Destination, Panel Generation, etc.)

| Options          | OSD  |
|------------------|------|
| Step-up D system | EHB7 |
| Step-up A system | ESB7 |
| Regular D system | ETB7 |
| Regular A system | ERB7 |

## ② SIG Mode and Screen size (by User is displayed)

**1st and 2nd characters** : Resolutin of the input signal

**3rd and 4th characters** : Refresh rate of the input signal

**5th character** : Selection of the screen size

### ■ Input signal mode table for video signals (resolutions and V frequencies)

| 1st to 4th Character |    | Signal Type | Fv (Hz) | Fh (kHz) |
|----------------------|----|-------------|---------|----------|
| 10                   | 50 | SDTV*525i   | 60.000  | 15.750   |
|                      | 60 | SDTV*525i   | 60.000  | 15.750   |
| 20                   | 50 | SDTV*625p   | 60.000  | 31.500   |
|                      | 60 | SDTV*525p   | 60.000  | 31.500   |
| 30                   | 50 | HDTV*1125i  | 60.000  | 33.750   |
|                      | 60 | HDTV*1125i  | 60.000  | 33.750   |
| 40                   | 50 | HDTV*750p   | 60.000  | 45.000   |
|                      | 60 | HDTV*750p   | 60.000  | 45.000   |
| 50                   | 24 | HDTV*1125p  | 24.000  | 27.000   |

Fv: Vertical Frequency, Fh: Horizontal Frequency

### ■ Input signal mode table for PC signals (resolutions and V frequencies)

| 1st to 4th Character |    | Signal Type | Fv (Hz) | Fh (kHz) |
|----------------------|----|-------------|---------|----------|
| C1                   | 70 | 720 x 400   | 70.087  | 31.469   |
| C2                   | 60 | 640 x 480   | 59.940  | 31.469   |
|                      | 72 |             | 72.809  | 37.861   |
|                      | 75 |             | 75.000  | 37.500   |
| C4                   | 56 | 800 x 600   | 56.250  | 35.1556  |
|                      | 60 |             | 60.317  | 37.879   |
|                      | 72 |             | 72.188  | 48.077   |
|                      | 75 |             | 75.000  | 46.875   |
| C7                   | 60 | 1024 x 768  | 60.004  | 48.363   |
|                      | 70 |             | 70.069  | 56.476   |
|                      | 75 |             | 75.029  | 60.023   |
| C9                   | 60 | 1360 x 768  | 60.015  | 47.712   |

Fv: Vertical Frequency, Fh: Horizontal Frequency

### ■ Current selection of the screen size

| 5th Character | GUI Notation | VIDEO | PC | Remarks |
|---------------|--------------|-------|----|---------|
| 0             | DOT BY DOT   | —     | ●  |         |
| 1             | 4:3          | ●     | ●  |         |
| 2             | FULL (FULL1) | ●     | ●  |         |
| 3             | ZOOM         | ●     | —  |         |
| 4             | CINEMA       | ●     | —  |         |
| 5             | WIDE         | ●     | —  |         |
| 6             | FULL 14:9    | ●     | —  |         |
| 7             | CINEMA 14:9  | ●     | —  |         |
| 8             | FULL2        | —     | ●  |         |

●: supported, —: unsupported

1 2 3 4

## 8.2 FACTORY MENU

### 8.2.1 INFORMATION

A

● Operation items

| No. | Function/Display   | Context                                                                    | RS-232C Command |
|-----|--------------------|----------------------------------------------------------------------------|-----------------|
| 1   | VERSION (1)        | The software versions for each microcomputer are displayed. (Common part)  | QS1             |
| 2   | VERSION (2)        | The Flash memory versions for each device are displayed. (Individual part) | QS6             |
| 3   | MAIN NG            | The Shutdown Message ID/Event Times in Main Microcomputer are displayed.   | QNG             |
| 4   | TEMPERATURE        | The Temperature/FAN rotating status in Main Microcomputer are displayed.   | QMT             |
| 5   | HOUR METER         | The HOUR METER/P-COUNT information are displayed.                          | QIP             |
| 6   | HDMI SIGNAL INFO 1 | The Information of HDMI information files are displayed.                   | —               |
| 7   | HDMI SIGNAL INFO 2 |                                                                            |                 |
| 8   | VDEC SIGNAL INFO   | Display the Signal Information on VDEC.                                    | —               |

8.2.1.1 VERSION (1)

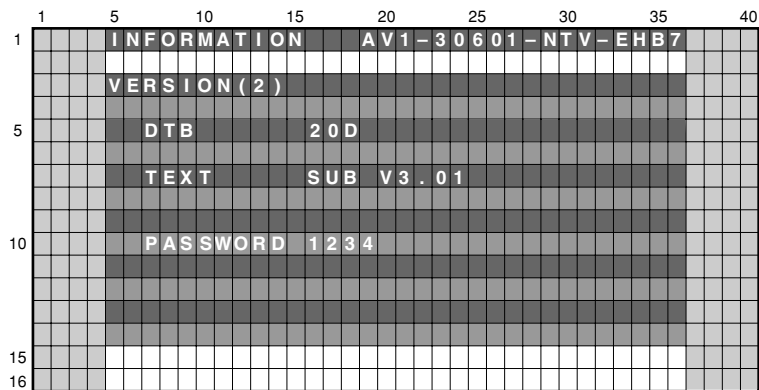
|    | 1  | 5 | 10          | 15 | 20 | 25 | 30 | 35 | 40 |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----|----|---|-------------|----|----|----|----|----|----|--|--|--|--|--|--------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 1  |    |   | INFORMATION |    |    |    |    |    |    |  |  |  |  |  | AV1-30101-NTV-EHB7 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   | VERSION(1)  |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5  |    |   | I / F       |    |    |    |    |    |    |  |  |  |  |  | - 07 A             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   | MAIN        |    |    |    |    |    |    |  |  |  |  |  | - 02 E 2 01 E      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   | MULTI PRS   |    |    |    |    |    |    |  |  |  |  |  | - 02 E 01 A        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   | MODULE      |    |    |    |    |    |    |  |  |  |  |  | - 06 A A 01 A      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 |    |   | SEQ PRS     |    |    |    |    |    |    |  |  |  |  |  | - 03 W A 01 A      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    |    |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|    | </ |   |             |    |    |    |    |    |    |  |  |  |  |  |                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

D

| Microcomputer        | Item Name | Display Example<br>(Execution program block) | Display Example<br>(Boot block) |
|----------------------|-----------|----------------------------------------------|---------------------------------|
| I/F microcomputer    | I/F       | -07A                                         | —                               |
| Main microcomputer   | MAIN      | -02E2                                        | 01E                             |
| Multi processor      | MULTI PRG | -02E2                                        | 01A                             |
| Module microcomputer | MODULE    | -06A_A                                       | 01A                             |
| Sequence processor   | SEQ PRS   | -03W_A                                       | 01A                             |

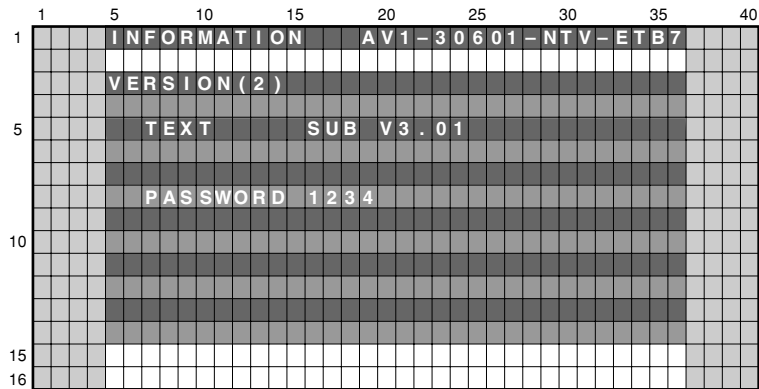
**Note:** In the 29-32 rows, the Boot version information on each device is displayed.  
In the 19-24 rows, the version of the execution program is displayed.  
At the position "14x35", The Past/Highly effective panel distinction information is displayed.

8.2.1.2 VERSION (2)



Step-up D / Regular D

| Flash Device  | Item Name | Display Example |
|---------------|-----------|-----------------|
| Digital Tuner | DTB       | 20D             |
| TeleTEXT      | TEXT      | SUB V3.01       |
| User Password | PASSWORD  | 1234            |



Step-up A / Regular A

| Flash Device  | Item Name | Display Example |
|---------------|-----------|-----------------|
| TeleTEXT      | TEXT      | SUB V3.01       |
| User Password | PASSWORD  | 1234            |

A



## C

D



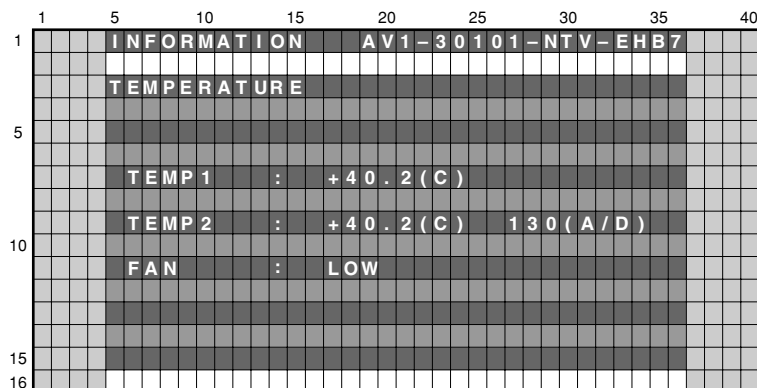
A

### 8.2.1.4 TEMPERATURE

A present temperature and the FAN rotation are displayed.

If either [←] key or [→] key is pressed, the display data is refreshed.

B



#### • Display/Meaning

TEMP1 : The temperature of the sensor on the panel side is displayed by the centigrade.

TEMP2 : The temperature conversion display is done with 10bit the A/D input value of Main uCON 76 pin (AN0). It is displayed by both the centigrade (C) and 8bit A/D value.

(Remark: When temperature (C) of the sensor becomes more than a specified temperature, the shutdown start of processing.)

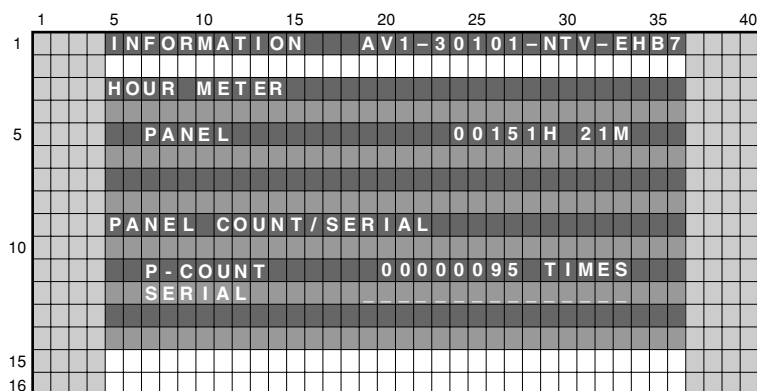
FAN : The value of the Fan rotating state is displayed.

STOP : stopped, LOW: slow speed, HIGH: high speed.

C

### 8.2.1.5 HOUR METER

D



E

#### • Display/Meaning

| Meaning            | Item Name | Display Example | Corresponding RS-232C Command |
|--------------------|-----------|-----------------|-------------------------------|
| HOUR METER (PANEL) | PANEL     | 00151H 21M      | QIP                           |
| POWER ON COUNTER   | P-COUNT   | 00000095 TIMES  | QIP                           |
| SYSTEM SERIAL      | SERIAL    |                 | QIP                           |

**Note 1:** The SYSTEM SERIAL displays only FHD. It corresponds by sticking the seal in G7 model.

**Note 2:** The PANEL-side's HOUR METER/P-COUNT acquires information from the PANEL-side.

F

### 8.2.1.6 HDMI SIGNAL INFO (1)

|    |   |                    |    |        |                    |    |        |    |    |  |
|----|---|--------------------|----|--------|--------------------|----|--------|----|----|--|
|    | 1 | 5                  | 10 | 15     | 20                 | 25 | 30     | 35 | 40 |  |
| 1  |   | INFORMATION        |    |        | AV1-10601-NTV-EHB7 |    |        |    |    |  |
|    |   | HDMI SIGNAL INFO 1 |    |        |                    |    |        |    |    |  |
| 5  |   | 0x60               |    | -4E:80 | 0x68               |    | -46:00 |    |    |  |
|    |   |                    |    | -4F:07 |                    |    | -47:05 |    |    |  |
|    |   |                    |    | -50:1c |                    |    | -48:00 |    |    |  |
|    |   |                    |    | -51:02 |                    |    | -84:00 |    |    |  |
|    |   |                    |    | -55:07 |                    |    | -87:00 |    |    |  |
| 10 |   | 0x68               |    | -2A:00 |                    |    | -88:00 |    |    |  |
|    |   |                    |    | -30:02 | 0x60               |    | -3A:98 |    |    |  |
|    |   |                    |    | -31:0a |                    |    | -3B:08 |    |    |  |
|    |   |                    |    | -44:51 |                    |    | -3C:33 |    |    |  |
|    |   |                    |    | -45:98 |                    |    | -3D:02 |    |    |  |
| 15 |   |                    |    |        |                    |    |        |    |    |  |
| 16 |   |                    |    |        |                    |    |        |    |    |  |

**Displays the input signal information of HDMI terminal**

| Device | SA   | Context                                                            |
|--------|------|--------------------------------------------------------------------|
| 0×60   | -4E: | Video information: valid horizontal pixel numbers (low order bit)  |
|        | -4F: | Video information: valid horizontal pixel numbers (high order bit) |
|        | -50: | Video information: valid vertical line numbers (low order bit)     |
|        | -51: | Video information: valid vertical line numbers (high order bit)    |
|        | -55: | Video information: interlace/non-interlace, sink polarity          |
| 0×68   | -2A: | Audio information: PCM/non PCM, copyright protected or not         |
|        | -30: | Audio information: sampling frequency                              |
|        | -31: | Audio information: sampling bit rate                               |
|        | -44: | Audio information: color space                                     |
|        | -45: | Video information: aspect ratio                                    |
|        | -46: | Video information: scaling                                         |
|        | -47: | Video information: video format                                    |
|        | -48: | Video information: pixel count                                     |
|        | -84: | Audio information: channel count                                   |
|        | -85: | Audio information: not used (zero at all times)                    |
|        | -86: | Audio information: not used (zero at all times)                    |
|        | -87: | Audio information: speaker allocation                              |
|        | -88: | Audio information (down mix prohibit flag)                         |
| 0×60   | -3A: | Video information: valid horizontal pixel numbers (low order bit)  |
|        | -3B: | Video information: valid horizontal pixel numbers (high order bit) |
|        | -3C: | Video information: valid vertical line numbers (low order bit)     |
|        | -3D: | Video information: valid vertical line numbers (high order bit)    |

### 8.2.1.7 HDMI SIGNAL INFO (2)

|    |   |   |    |                               |    |                                     |    |    |    |
|----|---|---|----|-------------------------------|----|-------------------------------------|----|----|----|
|    | 1 | 5 | 10 | 15                            | 20 | 25                                  | 30 | 35 | 40 |
| 1  |   |   |    | I N F O R M A T I O N         |    | A V 1 - 3 0 1 0 1 - N T V - E H B 7 |    |    |    |
|    |   |   |    | H D M I S I G N A L I N F O 2 |    |                                     |    |    |    |
|    |   |   |    |                               |    |                                     |    |    |    |
| 5  |   |   |    | H R E S : 2 2 0 0             |    | C O L S P : 4 2 2                   |    |    |    |
|    |   |   |    | V R E S : 0 5 6 3             |    | C O L M E T : 7 0 9                 |    |    |    |
|    |   |   |    | H D E : 1 9 2 0               |    | A S P E C T : 1 6 : 9               |    |    |    |
|    |   |   |    | V D E : 0 5 4 0               |    | A C T I V E :                       |    |    |    |
|    |   |   |    | I N T R L : I N T             |    | S a m e a s p i c t                 |    |    |    |
| 10 |   |   |    | V P O L : P O S               |    | V F M T :                           |    |    |    |
|    |   |   |    | H P O L : P O S               |    | 1 9 2 0 x 1 0 8 0 i @ 6 0           |    |    |    |
|    |   |   |    | A U D I O : 4 8 k             |    | P I X R P : 0 0                     |    |    |    |
|    |   |   |    |                               |    | S O U R C E : P I O N E E R         |    |    |    |
|    |   |   |    |                               |    |                                     |    |    |    |
|    |   |   |    |                               |    |                                     |    |    |    |
| 15 |   |   |    |                               |    |                                     |    |    |    |
| 16 |   |   |    |                               |    |                                     |    |    |    |

**Displays input signal status of MVDEC terminal**

| Display Item         | Meaning                                              |
|----------------------|------------------------------------------------------|
| H RES                | Number of horizontal pixels (decimal)                |
| V RES                | Number of vertical lines (decimal)                   |
| H DE                 | Number of effectively horizontal pixels (decimal)    |
| V DE                 | Number of effectively vertical lines (decimal)       |
| INTRL                | Intetlace (=INT) or progressive (=PRG)               |
| V POL                | VSNC polarity                                        |
| H POL                | HSNC polarity                                        |
| AUDIO (first line)   | Sampling frequency. (ex. DVD: 48kHz, CD: 44.1kHz) *1 |
| AUDIO (second line)  | PCM (PCM) or No PCM (=no PCM)                        |
| AUDIO (third line)   | Quantization bit                                     |
| COL SP               | Color space (AVI Info) (422 or 444 or RGB) *2        |
| COLMET               | Colormetry (AVI Info) (SD: 601, HD:709) *2           |
| ASPECT               | Aspect (AVI Info)                                    |
| ACTIVE               | Video active format (AVI Info)                       |
| V FMT                | Video identification code (AVI Info)                 |
| PIX RP               | Pixel repeat value for 2880 dot                      |
| SOURCE (first line)  | Vendor name of the emission device                   |
| SOURCE (second line) | Model name of the emission device                    |

\*1: Please confirm whether to be displayed here when the sound is not emitted.

\*2: There is a possibility of not suitable for the state of the source equipment when the color is amusing.

### Display of HDMI FACTORY and correspondence of resolution

Please confirm the following 5 items when the picture doesn't come out.

| Input Signal  | FACTORY Display |            |      |      |                 |
|---------------|-----------------|------------|------|------|-----------------|
|               | H RES           | V RES      | H DE | V DE | V FMT           |
| 480i (525i)   | 858             | 262 or 263 | 720  | 240  | 720x480i @ 60   |
| 480p (525p)   | 858             | 525        | 720  | 480  | 720x480p @60    |
| 1080i (1125i) | 2200            | 562 or 563 | 1920 | 540  | 1920x1080i @ 60 |
| 720p (750p)   | 1650            | 750        | 1280 | 720  | 1280x720p @ 60  |

### 8.2.1.8 VDEC SIGNAL INFO

|    |   |  |  |   |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |
|----|---|--|--|---|--|--|--|----|--|--|--|--|----|--|--|--|--|----|--|--|--|--|----|--|--|--|--|----|--|--|--|--|----|--|--|--|--|----|--|--|
|    | 1 |  |  | 5 |  |  |  | 10 |  |  |  |  | 15 |  |  |  |  | 20 |  |  |  |  | 25 |  |  |  |  | 30 |  |  |  |  | 35 |  |  |  |  | 40 |  |  |
| 1  |   |  |  |   |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |
|    |   |  |  |   |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |
|    |   |  |  |   |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |
|    |   |  |  |   |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |
| 5  |   |  |  |   |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |
|    |   |  |  |   |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |
|    |   |  |  |   |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |
|    |   |  |  |   |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |
|    |   |  |  |   |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |
|    |   |  |  |   |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |
| 10 |   |  |  |   |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |
|    |   |  |  |   |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |
|    |   |  |  |   |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |
|    |   |  |  |   |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |
|    |   |  |  |   |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |
|    |   |  |  |   |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |
| 15 |   |  |  |   |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |
| 16 |   |  |  |   |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |  |  |    |  |  |

Step-up

|    |                  |    |    |    |    |    |    |    |  |  |                    |  |  |  |  |  |  |  |  |  |
|----|------------------|----|----|----|----|----|----|----|--|--|--------------------|--|--|--|--|--|--|--|--|--|
| 1  | 5                | 10 | 15 | 20 | 25 | 30 | 35 | 40 |  |  |                    |  |  |  |  |  |  |  |  |  |
| 1  | INFORMATION      |    |    |    |    |    |    |    |  |  | AV1-30601-NTV-ESB7 |  |  |  |  |  |  |  |  |  |
|    | VDEC SIGNAL INFO |    |    |    |    |    |    |    |  |  |                    |  |  |  |  |  |  |  |  |  |
| 5  | MVDEC -00:00     |    |    |    |    |    |    |    |  |  | MVDEC -1D:00       |  |  |  |  |  |  |  |  |  |
|    | -01:00           |    |    |    |    |    |    |    |  |  |                    |  |  |  |  |  |  |  |  |  |
|    | -02:00           |    |    |    |    |    |    |    |  |  |                    |  |  |  |  |  |  |  |  |  |
|    | -15:00           |    |    |    |    |    |    |    |  |  |                    |  |  |  |  |  |  |  |  |  |
|    | -16:00           |    |    |    |    |    |    |    |  |  |                    |  |  |  |  |  |  |  |  |  |
| 10 | -17:00           |    |    |    |    |    |    |    |  |  |                    |  |  |  |  |  |  |  |  |  |
|    | -18:00           |    |    |    |    |    |    |    |  |  |                    |  |  |  |  |  |  |  |  |  |
|    | -19:00           |    |    |    |    |    |    |    |  |  |                    |  |  |  |  |  |  |  |  |  |
|    | -1A:00           |    |    |    |    |    |    |    |  |  |                    |  |  |  |  |  |  |  |  |  |
| 15 |                  |    |    |    |    |    |    |    |  |  |                    |  |  |  |  |  |  |  |  |  |
| 16 |                  |    |    |    |    |    |    |    |  |  |                    |  |  |  |  |  |  |  |  |  |

Regular

Displays input signal status of VDEC terminal.

| Device | SA  | Context                                                  |
|--------|-----|----------------------------------------------------------|
| MVDEC  | 00h | Signal distinction result 1                              |
|        | 01h | Signal distinction result 2                              |
|        | 02h | Flag detection output                                    |
|        | 15h | Noise level distinction 1                                |
|        | 16h | Noise level distinction 2                                |
|        | 17h | Non-standard signal detection                            |
|        | 18h | Subcarrier signal detection                              |
|        | 19h | ACC data output                                          |
|        | 1Ah | ACC information output                                   |
|        | 1Dh | Input signal mode                                        |
| SVDEC  | 88h | Status register 1 (TV/VCR status)                        |
|        | 89h | Status register 2 (Macrovision detection, etc.)          |
|        | 8Ah | Status register 3 (Front-end AGC gain value)             |
|        | 8Bh | Status register 4 (Subcarrier to horizontal (SCH) phase) |
|        | 8Ch | Status register 5 (Signal distinction)                   |

Displays digital broadcast signal information and status upon receiving digital signal.

A

■ Operation Items

This is the menu screen for the adjustment of the panel. Data acquisition and value adjustment can be performed for the following items:

| No.      | Indication            | Description of functions                                                                                                                                                            |
|----------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.2.2.1  | PANEL INFORMATION     | Data, such as the version of the microcomputer of the panel, product serial number, and statuses of memories for adjustment values for the main unit and for backup, are displayed. |
| 8.2.2.2  | PANEL WORKS           | Operation data, such as accumulated pulse-meter count, accumulated hour-meter count, accumulated power-on count, and the temperature detected by the sensor, are displayed.         |
| 8.2.2.3  | POWER DOWN            | The power-down history is displayed, with the hour-meter values that indicate the hour values when power-downs occurred.                                                            |
| 8.2.2.4  | SHUT DOWN             | The shutdown history is displayed, with the hour-meter values that indicate the hour values when shutdowns occurred.                                                                |
| 8.2.2.5  | PANEL-1 ADJ (+)       | Settings of the driving pulse timing and driving voltage can be performed.                                                                                                          |
| 8.2.2.6  | PANEL-2 ADJ (+)       | White balance and ABL (power consumption) for the panel can be set.                                                                                                                 |
| 8.2.2.7  | PANEL REVISE (+)      | The level for correction of panel degradation can be set.                                                                                                                           |
| 8.2.2.8  | ETC. (+)              | Copying of backup data and clearance of various data can be performed.                                                                                                              |
| 8.2.2.9  | RASTER MASK SETUP (+) | The mask indication (RASTER) can be set and indicated.                                                                                                                              |
| 8.2.2.10 | PATTEN MASK SETUP (+) | The mask indication (PATTERN) can be set and indicated.                                                                                                                             |
| 8.2.2.11 | COMBI MASK SETUP (+)  | The mask indication (COMBI) can be set and indicated.                                                                                                                               |

D

E

F

## ■ Details of indications in each layer

- In the following examples, GUI images for a 50-inch model are indicated. Although the display areas for the menu for 42-inch and 50-inch models are different, the items to be displayed are the same.

### 8.2.2.1 PANEL INFORMATION

- Data, such as the version of the microcomputer of the panel, product serial number, and statuses of memories for adjustment values for the main unit and for backup, are displayed. No other layers are nested below this layer, and there are no adjustment items.

|   |        |   |   |         |             |    |                    |    |    |
|---|--------|---|---|---------|-------------|----|--------------------|----|----|
|   |        | 1 | 5 | 10      | 15          | 20 | 25                 | 30 | 32 |
| 1 |        |   |   | PANEL   | FACT.       |    | AV1-30602-RGB-EHB7 |    |    |
|   | AREA 1 |   |   | PANEL   | INFORMATION |    |                    |    |    |
| 2 |        |   |   |         |             |    |                    |    |    |
| 3 |        |   |   | MODULE  | -01A        | M  | 01A                |    |    |
| 4 |        |   |   | SEQ-PRG | -01Y        |    | 02A                |    |    |
| 5 |        |   |   | VD-SEQ  | 520Y        |    |                    |    |    |
| 6 |        |   |   | PC-SEQ  | 520Y        |    |                    |    |    |
| 7 |        |   |   |         |             |    |                    |    |    |
| 8 |        |   |   | SERIAL  |             |    |                    |    |    |
| 9 |        |   |   |         |             |    |                    |    |    |
| A |        |   |   | DIG.EEP | ADJUSTED    |    |                    |    |    |
| B |        |   |   | BACKUP  | NO DATA!    |    |                    |    |    |
| C |        |   |   |         |             |    |                    |    |    |
| D |        |   |   |         |             |    |                    |    |    |
| E |        |   |   |         |             |    |                    |    |    |

Display area for 42-inch model

Display area for 50-inch model

#### ■ Key operation

- <DOWN> : Shifting to PANEL WORKS
- <UP> : Shifting to COMBI MASK SETUP (+)
- <L/R> : Updating displayed information

#### ■ Display items:

- MODULE : The version of data written in the Module microcomputer (IC3151) is indicated.
- SEQ-PRG : The version of data written in the Sequence Program Storage Memory (IC3301) is indicated.
- VD-SEQ : The Drive Sequence version for Video mode is indicated.
- PC-SEQ : The Drive Sequence version for PC mode is indicated.
- SERIAL : The serial number of the module is indicated.
- DIG.EEP : The adjusted status of the EEPROM that is mounted on the DIGITAL Assy is indicated.
- BACKUP : The adjusted status of the EEPROM for backup that is mounted on the SENSOR Assy is indicated.

### 8.2.2.2 PANEL WORKS

- Data on operations, such as the accumulated pulse-meter counts, hour-meter count, power-on count, and temperature detected by the sensor, are sent back. No other layers are nested below this layer, and there are no adjustment items.

|   |        |   |   |         |          |       |                    |    |    |
|---|--------|---|---|---------|----------|-------|--------------------|----|----|
|   |        | 1 | 5 | 10      | 15       | 20    | 25                 | 30 | 32 |
| 1 |        |   |   | PANEL   | FACT.    |       | AV1-30602-RGB-EHB7 |    |    |
|   | AREA 1 |   |   | PANEL   | WORKS    |       |                    |    |    |
| 2 |        |   |   |         |          |       |                    |    |    |
| 3 |        |   |   | PM-B1   | 00000715 | M     |                    |    |    |
| 4 |        |   |   | PM-B2   | 00000607 | M     |                    |    |    |
| 5 |        |   |   | PM-B3   | 00000852 | M     |                    |    |    |
| 6 |        |   |   | PM-B4   | 00000668 | M     |                    |    |    |
| 7 |        |   |   | PM-B5   | 00000733 | M     |                    |    |    |
| 8 |        |   |   |         |          |       |                    |    |    |
| 9 |        |   |   | HR-MTR  | 000025H  | 20M   |                    |    |    |
| A |        |   |   | P-COUNT | 00000095 | TIMES |                    |    |    |
| B |        |   |   | TEMP1   | +27.4    | /     | +70.8              |    |    |
| C |        |   |   |         |          |       |                    |    |    |
| D |        |   |   |         |          |       |                    |    |    |
| E |        |   |   |         |          |       |                    |    |    |

#### ■ Key operation

- <DOWN> : Shifting to POWER DOWN
- <UP> : Shifting to PANEL INFORMATION
- <L/R> : Updating displayed information

← Temperature unit is " °C (Centigrade) ".

#### ■ Contents of the Display item

- PM-B1 to B5: The accumulated pulse-meter counts for the 5 blocks on the screen are indicated. (the lowest-order digit represents millions of pulses.)
- HR-MTR: The hour-meter value (accumulated power-on hours) is indicated.
- P-COUNT: The accumulated power-on count is indicated.
- TEMP1: The current panel temperature and the historical maximum temperature recorded in memory are indicated. The range of temperature indication is from -50.0 to +99.9. (The temperature unit is " °C (Centigrade) ".)

### 8.2.2.3 POWER DOWN

- The power-down history is displayed. The last most 8 power-down histories are displayed with the hour-meter values that indicate the hours when power-downs occurred. No other layers are nested below this layer, and there are no adjustment items.

|   |        |        |       |        |    |                    |     |    |    |
|---|--------|--------|-------|--------|----|--------------------|-----|----|----|
|   |        | 1      | 5     | 10     | 15 | 20                 | 25  | 30 | 32 |
| 1 |        | PANEL  | FACT. |        |    | AV1-30602-RGB-EHB7 |     |    |    |
|   | AREA 1 | POWER  | DOWN  |        |    |                    |     |    |    |
| 2 |        | 1ST    |       | 2ND    |    | 000124H            | 23M |    |    |
| 3 |        |        |       |        |    |                    |     |    |    |
| 4 | 1      | X-DRV  |       |        |    | 000124H            | 21M |    |    |
| 5 | 2      | Y-SUS  |       | SQ-NON |    | 000115H            | 05M |    |    |
| 6 | 3      | SCAN   |       |        |    | 000107H            | 53M |    |    |
| 7 | 4      | POWER  |       | SCAN   |    | 000098H            | 47M |    |    |
| 8 | 5      | ADRS   |       |        |    | 000051H            | 30M |    |    |
| 9 | 6      | SCAN5V |       | X-DCDC |    | 000022H            | 21M |    |    |
| A | 7      | Y-DCDC |       |        |    | 000000H            | 57M |    |    |
| B | 8      |        |       |        |    |                    |     | H  | M  |
| C |        |        |       |        |    |                    |     |    |    |
| D |        |        |       |        |    |                    |     |    |    |
| E |        |        |       |        |    |                    |     |    |    |

#### Key operation

- <DOWN> : Shifting to SHUT DOWN
- <UP> : Shifting to PANEL WORKS
- <L/R> : Updating displayed information

#### <Causes of power-down and corresponding OSD indications>

| Cause of power-down         | OSD Indication | Cause of power-down         | OSD Indication |
|-----------------------------|----------------|-----------------------------|----------------|
| POWER SUPPLY Unit           | P-PWR          | ADDRESS Assy                | ADRS           |
| SCAN Assy                   | SCAN           | X DRIVE Assy                | XDRV           |
| 5V power for SCAN Assy      | SCAN5V         | DC/DC converter for X drive | X-DCDC         |
| Y DRIVE Assy                | YDRV           | X-drive SUS circuit         | X-SUS          |
| DC/DC converter for Y drive | Y-DCDC         | Specification inability     | UNKNOWN        |
| Y-drive SUS circuit         | Y-SUS          |                             |                |

- \* When power-down is confirmed, the factor is displayed as "1st", "2nd", according to the accuracy order.
- \* The power-down history is not recorded when the power-down occurred at the same place and same time.

### 8.2.2.4 SHUT DOWN

- The shutdown history is displayed. The last most 8 shutdown histories are displayed with the hour-meter values that indicate the hours when shutdowns occurred. No other layers are nested below this layer, and there are no adjustment items.

|   |        |        |       |        |    |                    |     |    |    |
|---|--------|--------|-------|--------|----|--------------------|-----|----|----|
|   |        | 1      | 5     | 10     | 15 | 20                 | 25  | 30 | 32 |
| 1 |        | PANEL  | FACT. |        |    | AV1-30602-RGB-EHB7 |     |    |    |
|   | AREA 1 | SHUT   | DOWN  |        |    |                    |     |    |    |
| 2 |        | MAIN   |       | SUB    |    | 000124H            | 23M |    |    |
| 3 |        |        |       |        |    |                    |     |    |    |
| 4 | 1      | TMP-NG |       | TEMP1  |    | 000124H            | 21M |    |    |
| 5 | 2      | SQ-IC  |       | SQNO/L |    | 000115H            | 05M |    |    |
| 6 | 3      | MD-IIC |       | EEPROM |    | 000107H            | 53M |    |    |
| 7 | 4      | SQ-IC  |       | VER-LR |    | 000098H            | 47M |    |    |
| 8 | 5      | MD-IIC |       | BACKUP |    | 000051H            | 30M |    |    |
| 9 | 6      | SQ-IC  |       | SEP-IC |    | 000012H            | 07M |    |    |
| A | 7      |        |       |        |    |                    |     | H  | M  |
| B | 8      |        |       |        |    |                    |     |    |    |
| C |        |        |       |        |    |                    |     |    |    |
| D |        |        |       |        |    |                    |     |    |    |
| E |        |        |       |        |    |                    |     |    |    |

#### Key operation

- <DOWN> : Shifting to PANEL-1 ADJ (+)
- <UP> : Shifting to POWER DOWN
- <L/R> : Updating displayed information

- \* When there is detail information when shutdown occurred, the possible defective part is displayed as Sub information.

#### <Cause of shut-down and corresponding OSD Indication >

| Cause of shut-down (MAIN)     |                | Cause of shut-down (SUB) |                |
|-------------------------------|----------------|--------------------------|----------------|
| Item                          | OSD Indication | Item                     | OSD Indication |
| Drive Processing IC           | SQ-IC          | Communication Error      | RTRY           |
|                               |                | Drive Stop               | SQNO           |
|                               |                | Communication Busy       | BUSY           |
|                               |                | Incoherent Version       | VER-HS         |
| MDU-IIC                       | MD-IIC         | MAIN EEPROM              | EEPROM         |
|                               |                | Communication Error      |                |
|                               |                | BACKUP EEPROM            | BACKUP         |
|                               |                | Communication Error      |                |
| High temperature of the panel | TMP-NG         | DAC Communication Error  | DAC            |
|                               |                | Temperature NG           | TEMP           |

### 8.2.2.5 PANEL-1 ADJ (+)

- Timing and voltage for the driving pulse are set. At third line of the screen, the WB (White Balance) table and frequency table indicating operation status are displayed, and at fifteenth line of the screen, the item for the upper nested layer (PANEL-1 ADJ [+]) is displayed. Pressing the SET key shifts the screen to the next nested layer below for item selection.

|    |        |         |       |     |                    |    |    |    |             |
|----|--------|---------|-------|-----|--------------------|----|----|----|-------------|
|    |        | 1       | 5     | 10  | 15                 | 20 | 25 | 30 | 32          |
| 1  |        | PANEL   | FACT. |     | AV1-30602-RGB-EHB7 |    |    |    |             |
|    | AREA 1 |         |       |     |                    |    |    |    | [TBL1/60VS] |
| 2  |        |         |       |     |                    |    |    |    |             |
| 3  |        |         |       |     |                    |    |    |    |             |
| 4  |        |         |       |     |                    |    |    |    |             |
| 5  |        |         |       |     |                    |    |    |    |             |
| 6  |        |         |       |     |                    |    |    |    |             |
| 7  |        |         |       |     |                    |    |    |    |             |
| 8  |        |         |       |     |                    |    |    |    |             |
| 9  |        |         |       |     |                    |    |    |    |             |
| A  |        |         |       |     |                    |    |    |    |             |
| B  |        |         |       |     |                    |    |    |    |             |
| C  |        |         |       |     |                    |    |    |    |             |
| 15 | D      | PANEL-1 | ADJ   | (+) |                    |    |    |    |             |
| 16 | E      |         |       |     |                    |    |    |    |             |

#### ■ Key operation

- <DOWN> : Shifting to PANEL-2 ADJ (+)
- <UP> : Shifting to SHUT DOWN
- <SET> : Shifting to the next nested layer

- When the screen is shifted to the next nested layer below, the item of the layer above is indicated at third line of the screen, and the item of the layer below is indicated at fifteenth line.
- The configuration of the menu screen is the same for any adjustment item that has lower layers.

|    |        |         |        |     |                    |    |    |    |             |
|----|--------|---------|--------|-----|--------------------|----|----|----|-------------|
|    |        | 1       | 5      | 10  | 15                 | 20 | 25 | 30 | 32          |
| 1  |        | PANEL   | FACT.  |     | AV1-30602-RGB-EHB7 |    |    |    |             |
|    | AREA 1 | PANEL-1 | ADJ    |     |                    |    |    |    | [----/60VS] |
| 2  |        |         |        |     |                    |    |    |    |             |
| 3  |        |         |        |     |                    |    |    |    |             |
| 4  |        |         |        |     |                    |    |    |    |             |
| 5  |        |         |        |     |                    |    |    |    |             |
| 6  |        |         |        |     |                    |    |    |    |             |
| 7  |        |         |        |     |                    |    |    |    |             |
| 8  |        |         |        |     |                    |    |    |    |             |
| 9  |        |         |        |     |                    |    |    |    |             |
| A  |        |         |        |     |                    |    |    |    |             |
| B  |        |         |        |     |                    |    |    |    |             |
| C  |        |         |        |     |                    |    |    |    |             |
| 15 | D      | VOL     | OFFSET | <=> |                    |    |    |    | : 128       |
| 16 | E      |         |        |     |                    |    |    |    |             |

#### ■ Key operation

- <DOWN> : Shifting to the next item
- <UP> : Shifting to the previous item
- <RIGHT> : Adding by one to the adjustment/setting value
- <LEFT> : Subtracting by one from the adjustment/setting value
- <VOL+> : Adding by 10 to the adjustment/setting value
- <VOL-> : Subtracting by 10 from the adjustment/setting value
- <SET> : Determining the adjustment/setting value and shifting to the upper layer

A

### 8.2.2.6 PANEL-2 ADJ (+)

- White balance can be adjusted by adjusting R, G, and B gain. Pressing the SET key shifts the screen to the next nested layer below for item selection.

|    |        |         |         |    |                    |    |    |    |               |
|----|--------|---------|---------|----|--------------------|----|----|----|---------------|
|    |        | 1       | 5       | 10 | 15                 | 20 | 25 | 30 | 32            |
| 1  |        | PANEL   | FACT.   |    | AV1-30602-RGB-EHB7 |    |    |    |               |
|    | AREA 1 |         |         |    |                    |    |    |    | [TBL1 / 60VS] |
|    | 2      |         |         |    |                    |    |    |    |               |
| 5  | 3      |         |         |    |                    |    |    |    |               |
|    | 4      |         |         |    |                    |    |    |    |               |
|    | 5      |         |         |    |                    |    |    |    |               |
|    | 6      |         |         |    |                    |    |    |    |               |
| B  | 7      |         |         |    |                    |    |    |    |               |
| 10 | 8      |         |         |    |                    |    |    |    |               |
|    | 9      |         |         |    |                    |    |    |    |               |
|    | A      |         |         |    |                    |    |    |    |               |
|    | B      |         |         |    |                    |    |    |    |               |
|    | C      |         |         |    |                    |    |    |    |               |
| 15 | D      | PANEL-2 | ADJ (+) |    |                    |    |    |    |               |
| 16 | E      |         |         |    |                    |    |    |    |               |

#### Key operation

- <DOWN> : Shifting to PANEL REVISE (+)
- <UP> : Shifting to PANEL-1 ADJ (+)
- <SET> : Shifting to the next nested layer

C

|    |        |         |       |    |                    |    |    |    |               |
|----|--------|---------|-------|----|--------------------|----|----|----|---------------|
|    |        | 1       | 5     | 10 | 15                 | 20 | 25 | 30 | 32            |
| 1  |        | PANEL   | FACT. |    | AV1-30602-RGB-EHB7 |    |    |    |               |
|    | AREA 1 | PANEL-2 | ADJ   |    |                    |    |    |    | [TBL1 / 60VS] |
|    | 2      |         |       |    |                    |    |    |    |               |
| 5  | 3      |         |       |    |                    |    |    |    |               |
|    | 4      |         |       |    |                    |    |    |    |               |
|    | 5      |         |       |    |                    |    |    |    |               |
|    | 6      |         |       |    |                    |    |    |    |               |
|    | 7      |         |       |    |                    |    |    |    |               |
| 10 | 8      |         |       |    |                    |    |    |    |               |
|    | 9      |         |       |    |                    |    |    |    |               |
|    | A      |         |       |    |                    |    |    |    |               |
|    | B      |         |       |    |                    |    |    |    |               |
|    | C      |         |       |    |                    |    |    |    |               |
| D  | D      | R-HIGH  | <=>   |    |                    |    |    |    | : 256         |
| 16 | E      |         |       |    |                    |    |    |    |               |

#### Key operation

- <DOWN> : Shifting to the next item
- <UP> : Shifting to the previous item
- <RIGHT> : Adding by one to the adjustment/setting value
- <LEFT> : Subtracting by one from the adjustment/setting value
- <VOL+> : Adding by 10 to the adjustment/setting value
- <VOL-> : Subtracting by 10 from the adjustment/setting value
- <SET> : Determining the adjustment/setting value and shifting to the upper layer

E

F

### 8.2.2.7 PANEL REVISE (+)

- A setting for panel degradation correction can be made. Pressing the SET key shifts the screen to the next nested layer below for item selection.

|    |        |       |            |    |                    |    |    |    |             |
|----|--------|-------|------------|----|--------------------|----|----|----|-------------|
|    |        | 1     | 5          | 10 | 15                 | 20 | 25 | 30 | 32          |
| 1  |        | PANEL | FACT.      |    | AV1-30602-RGB-EHB7 |    |    |    |             |
|    | AREA 1 |       |            |    |                    |    |    |    | [TBL1/60VS] |
|    | 2      |       |            |    |                    |    |    |    |             |
| 5  | 3      |       |            |    |                    |    |    |    |             |
|    | 4      |       |            |    |                    |    |    |    |             |
|    | 5      |       |            |    |                    |    |    |    |             |
|    | 6      |       |            |    |                    |    |    |    |             |
|    | 7      |       |            |    |                    |    |    |    |             |
| 10 | 8      |       |            |    |                    |    |    |    |             |
|    | 9      |       |            |    |                    |    |    |    |             |
|    | A      |       |            |    |                    |    |    |    |             |
|    | B      |       |            |    |                    |    |    |    |             |
|    | C      |       |            |    |                    |    |    |    |             |
| 15 | D      | PANEL | REVISE (+) |    |                    |    |    |    |             |
| 16 | E      |       |            |    |                    |    |    |    |             |

#### ■ Key operation

- <DOWN> : Shifting to ETC.(+)
- <UP> : Shifting to PANEL-2 ADJ (+)
- <SET> : Shifting to the next nested layer

|    |        |         |        |    |                    |    |    |    |             |
|----|--------|---------|--------|----|--------------------|----|----|----|-------------|
|    |        | 1       | 5      | 10 | 15                 | 20 | 25 | 30 | 32          |
| 1  |        | PANEL   | FACT.  |    | AV1-30602-RGB-EHB7 |    |    |    |             |
|    | AREA 1 | PANEL   | REVISE |    |                    |    |    |    | [TBL1/60VS] |
|    | 2      |         |        |    |                    |    |    |    |             |
| 5  | 3      |         |        |    |                    |    |    |    |             |
|    | 4      |         |        |    |                    |    |    |    |             |
|    | 5      |         |        |    |                    |    |    |    |             |
|    | 6      |         |        |    |                    |    |    |    |             |
|    | 7      |         |        |    |                    |    |    |    |             |
| 10 | 8      |         |        |    |                    |    |    |    |             |
|    | 9      |         |        |    |                    |    |    |    |             |
|    | A      |         |        |    |                    |    |    |    |             |
|    | B      |         |        |    |                    |    |    |    |             |
|    | C      |         |        |    |                    |    |    |    |             |
| 15 | D      | R-LEVEL | <=>    |    |                    |    |    |    | : LV-0      |
| 16 | E      |         |        |    |                    |    |    |    |             |

#### ■ Key operation

- <DOWN> : Shifting to the next item
- <UP> : Shifting to the previous item
- <RIGHT> : Adding by one to the adjustment/setting value
- <LEFT> : Subtracting by one from the adjustment/setting value
- <SET> : Determining the adjustment/setting value and shifting to the upper layer



### 8.2.2.9 RASTER MASK SETUP (+)

- This menu set the RASTER MASK and the drive sequence at RASTER MASK state. Pressing the SET key shifts the screen to the next nested layer below for item selection.

|    |  |                                             |   |    |    |    |    |    |    |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |   |   |   |  |
|----|--|---------------------------------------------|---|----|----|----|----|----|----|---|---|---|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|---|---|---|--|
|    |  | 1                                           | 5 | 10 | 15 | 20 | 25 | 30 | 32 |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |   |   |   |  |
| 1  |  |                                             | P | A  | N  | E  | L  | F  | A  | C | T | . |  | A | V | 1 | - | 3 | 0 | 6 | 0 | 2 | - | R | G | B | - | E               | H | B | 7 |  |
|    |  | AREA 1                                      |   |    |    |    |    |    |    |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   | [ TBL1 / 60VS ] |   |   |   |  |
|    |  | 2                                           |   |    |    |    |    |    |    |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |   |   |   |  |
| 5  |  | 3                                           |   |    |    |    |    |    |    |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |   |   |   |  |
|    |  | 4                                           |   |    |    |    |    |    |    |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |   |   |   |  |
|    |  | 5                                           |   |    |    |    |    |    |    |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |   |   |   |  |
|    |  | 6                                           |   |    |    |    |    |    |    |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |   |   |   |  |
|    |  | 7                                           |   |    |    |    |    |    |    |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |   |   |   |  |
| 10 |  | 8                                           |   |    |    |    |    |    |    |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |   |   |   |  |
|    |  | 9                                           |   |    |    |    |    |    |    |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |   |   |   |  |
|    |  | A                                           |   |    |    |    |    |    |    |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |   |   |   |  |
|    |  | B                                           |   |    |    |    |    |    |    |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |   |   |   |  |
|    |  | C                                           |   |    |    |    |    |    |    |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |   |   |   |  |
| 15 |  | D R A S T E R   M A S K   S E T U P   ( + ) |   |    |    |    |    |    |    |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |   |   |   |  |
| 16 |  | E                                           |   |    |    |    |    |    |    |   |   |   |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |   |   |   |  |

#### ■ Key operation

- <DOWN> : Shifting to PATTEN MASK SETUP (+)
- <UP> : Shifting to ETC. (+)
- <SET> : Shifting to the next nested layer

|    |               |                   |             |    |    |                    |             |       |    |  |
|----|---------------|-------------------|-------------|----|----|--------------------|-------------|-------|----|--|
|    |               | 1                 | 5           | 10 | 15 | 20                 | 25          | 30    | 32 |  |
| 1  |               |                   | PANEL FACT. |    |    | AV1-30602-RGB-EHB7 |             |       |    |  |
|    | AREA 1        | RASTER MASK SETUP |             |    |    |                    | [TBL1/60VS] |       |    |  |
|    | 2             |                   |             |    |    |                    |             |       |    |  |
| 5  | 3             |                   |             |    |    |                    |             |       |    |  |
|    | 4             |                   |             |    |    |                    |             |       |    |  |
|    | 5             |                   |             |    |    |                    |             |       |    |  |
|    | 6             |                   |             |    |    |                    |             |       |    |  |
|    | 7             |                   |             |    |    |                    |             |       |    |  |
| 10 | 8             |                   |             |    |    |                    |             |       |    |  |
|    | 9             |                   |             |    |    |                    |             |       |    |  |
|    | A             |                   |             |    |    |                    |             |       |    |  |
|    | B             |                   |             |    |    |                    |             |       |    |  |
|    | C             |                   |             |    |    |                    |             |       |    |  |
| 15 | D RST MASK 01 |                   |             |    |    |                    |             | : 60V |    |  |
| 16 | E             |                   |             |    |    |                    |             |       |    |  |

#### ■ Key operation

- <DOWN> : Shifting to the next MASK
- <UP> : Shifting to the previous MASK
- <RIGHT> : Changing MASK sequence (+)
- <LEFT> : Changing MASK sequence (-)
- <SET> : Determining the adjustment/setting value and shifting to the upper layer

- The MASK indication sequence can be changed among 48V, 50V, 60V, 72V, 75V, 60P, and 70P, using the Right or Left key. The selected sequence and the ABL/WB table are retained until the mask is turned off.
- 48 V and 60 P are deleted from the sequence, and represented by 50 V and 60 V, respectively. The ABL/WB table is changed to the PC table.

### A 8.2.2.10 PATTEN MASK SETUP (+)

- This menu set the PATTEN MASK and the drive sequence at PATTEN MASK state.

|    |  |   |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|----|--|---|---|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
|    |  | 1 | 5 | 10 | 15 | 20 | 25 | 30 | 32 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| 1  |  |   | P | A  | N  | E  | L  | F  | A  | C | T | . |   | A | V | 1 | - | 3 | 0 | 6 | 0 | 2 | - | R | G | B | - | E | H | B | 7 |  |
|    |  | A | R | E  | A  | 1  |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|    |  | 2 |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| 5  |  | 3 |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|    |  | 4 |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|    |  | 5 |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|    |  | 6 |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|    |  | 7 |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| 10 |  | 8 |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|    |  | 9 |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|    |  | A |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|    |  | B |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|    |  | C |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| 15 |  | D | P | A  | T  | T  | E  | N  | M  | A | S | K | S | E | T | U | P | ( | + | ) |   |   |   |   |   |   |   |   |   |   |   |  |
| 16 |  | E |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |

#### ■ Key operation

- <DOWN> : Shifting to COMBI MASK SETUP (+)
- <UP> : Shifting to RASTER MASK SETUP (+)
- <SET> : Shifting to the next nested layer

|    |  | 1 | 5 | 10 | 15 | 20 | 25 | 30 | 32 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|----|--|---|---|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| 1  |  |   | P | A  | N  | E  | L  | F  | A  | C | T | . |   | A | V | 1 | - | 3 | 0 | 6 | 0 | 2 | - | R | G | B | - | E | H | B | 7 |  |
|    |  | A | R | E  | A  | 1  | P  | A  | T  | T | E | N | M | A | S | K | S | E | T | U | P |   |   |   |   |   |   |   |   |   |   |  |
|    |  | 2 |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| 5  |  | 3 |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|    |  | 4 |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|    |  | 5 |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|    |  | 6 |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|    |  | 7 |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| 10 |  | 8 |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|    |  | 9 |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|    |  | A |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|    |  | B |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|    |  | C |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| 15 |  | D | P | T  | N  | M  | A  | S  | K  | 0 | 1 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| 16 |  | E |   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |

#### ■ Key operation

- <DOWN> : Shifting to the next MASK
- <UP> : Shifting to the previous MASK
- <RIGHT> : Changing MASK sequence (+)
- <LEFT> : Changing MASK sequence (-)
- <SET> : Determining the adjustment/setting value and shifting to the upper layer

- The MASK indication sequence can be changed among 48V, 50V, 60V, 72V, 75V, 60P, and 70P, using the Right or Left key. The selected sequence and the ABL/WB table are retained until the mask is turned off.
- 48 V and 60 P are deleted from the sequence, and represented by 50 V and 60 V, respectively. The ABL/WB table is changed to the PC table.

#### 8.2.2.11 COMBI MASK SETUP (+)

- This menu set the COMBI MASK and the drive sequence at COMBI MASK state.

[illegible]

### ■ Key operation

- <DOWN> : Shifting to PANEL INFORMATION  
<UP> : Shifting to PATTEN MASK SETUP  
(+)  
<SET> : Shifting to the next nested layer

[illegible]

### ■ Key operation

- <DOWN> : Shifting to the next MASK
- <UP> : Shifting to the previous MASK
- <RIGHT> : Changing MASK sequence (+)
- <LEFT> : Changing MASK sequence (-)
- <SET> : Determining the adjustment/setting value and shifting to the upper layer

- The MASK indication sequence can be changed among 48V, 50V, 60V, 72V, 75V, 60P, and 70P, using the Right or Left key. The selected sequence and the ABL/WB table are retained until the mask is turned off.
- 48 V and 60 P are deleted from the sequence, and represented by 50 V and 60 V, respectively. The ABL/WB table is changed to the PC table.

## 8.2.3 OPTION

### Operation item

| No. | Function          | Content          | RS2-32C |
|-----|-------------------|------------------|---------|
| 1   | EDID WRITE MODE ⇔ | DISABLE ⇔ ENABLE | ----    |
| 2   | CH PRESET ⇔       | USER ⇔ FACTORY   | ----    |

### 8.2.3.1 EDID WRITE MODE

Exclusively used for production line.

### 8.2.3.2 CH PRESET

Exclusively used for production line.

## 8.2.4 INITIALIZE

### Operation item

| No. | Function               | Content                                            | RS2-32C       |
|-----|------------------------|----------------------------------------------------|---------------|
| 1   | SYNC DET (+)           | Exclusively used for technical analysis.           | ----          |
| 2   | SG MODE ⇔              | Paired SG_MODE with SG_PATTERN. Select SG Route.   | ----          |
| 3   | SG PATTERN ⇔           | Paired SG_MODE with SG_PATTERN. Select SG Pattern. | ----          |
| 4   | SIDE MASK LEVEL (+)    | Configure the color of the side mask.              | BSL, GSL, RSL |
| 5   | FINAL SETUP (+)        | Initialize flash memories on virgin product status | FST           |
| 6   | CVT AUTO ⇔             | Exclusively used for technical analysis.           | ----          |
| 7   | HDMI INTR POSITION (+) | Exclusively used for technical analysis.           | ----          |

### 8.2.4.1 SYNC DET (+)

Exclusively used for technical analysis (details omitted).

### 8.2.4.2 SG MODE

SG MODE (SG's route selection) / SG PATTERN (signal pattern selection) are used as pair.

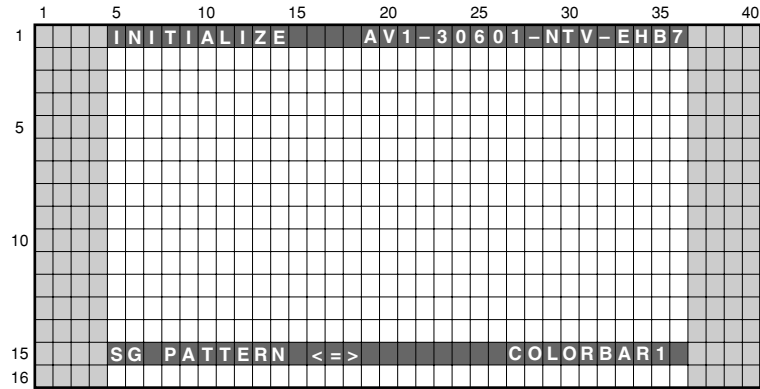
In SG MODE, select the SG route and then select the SG pattern to be sent by the selected route.

In SG MODE, make sure to select the route first.

### Operation item

| No. | Display         | Content                                                      |
|-----|-----------------|--------------------------------------------------------------|
| 1   | SG OFF          | SG Mode is OFF.                                              |
| 2   | DIG MVDEC YCBCR | MAIN VDEC: YCbCr<br>(Digital output mode)                    |
| 3   | ANA MVDEC Y     | MAIN VDEC: Y (Analog output<br>mode: SG VDEC return setting) |
| 4   | ANA MVDEC RGB   | MAIN VDEC:RGB                                                |
| 5   | ANA SVDEC Y     | SUB VDEC:Y                                                   |
| 6   | ANA AD YCBCR    | AD: YcbCr<br>(Analog output to the RGB SW)                   |
| 7   | ANA AD RGB      | AD: RGB<br>(Analog output to the RGB SW)                     |

### 8.2.4.3 SG PATTERN



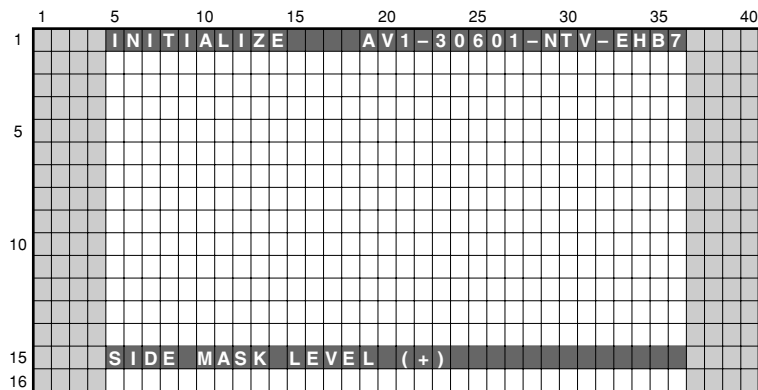
#### Operation item

| No. | Display    | SG Pattern (Brightness IRE Level/Color) | No. | Display | SG Pattern (Brightness IRE Level/Color) |
|-----|------------|-----------------------------------------|-----|---------|-----------------------------------------|
| 1   | COLOR BAR1 | Colorbar (75%)                          | 11  | RASTER4 | Raster (75% Green)                      |
| 2   | COLOR BAR2 | Colorbar (100%)                         | 12  | RASTER5 | Raster (75% Magenta)                    |
| 3   | RAMP1      | Ramp (100% white)                       | 13  | RASTER6 | Raster (75% Red)                        |
| 4   | RAMP2      | Ramp (100% Yellow)                      | 14  | RASTER7 | Raster (75% Blue)                       |
| 5   | RAMP3      | Ramp (75% Green)                        | 15  | RASTER8 | Raster (– % Black)                      |
| 6   | RAMP4      | Ramp (75% Red)                          | 16  | 10STEP1 | 10STEP (100% white)                     |
| 7   | RAMP5      | Ramp (75% Blue)                         | 17  | 10STEP2 | 10STEP (100% Yellow)                    |
| 8   | RASTER1    | Raster (100% White)                     | 18  | 10STEP3 | 10STEP (75% Green)                      |
| 9   | RASTER2    | Raster (75% Yellow)                     | 19  | 10STEP4 | 10STEP (75% Red)                        |
| 10  | RASTER3    | Raster (75% Cyanide)                    | 20  | 10STEP5 | 10STEP (75% Blue)                       |

#### ■ Notes when using SG MODE/SG PATTERN

- During factory mode, choose the correct route when changing.
- Basically, during VDEC SG output, make sure to connect SG output's Y or G to the AVI input terminal of VDEC.
- During SG MODE, turn off the blanking 50IRE setup function.
- During VDEC SG output, set the YC separation setting to NTSC.
- It is possible to use ANALOG OUT MODE together during DIGITAL OUT MODE.  
The Main VDEC can output digital color difference, in which colors will appear.  
But the route to VDEC input cannot be analysed therefore care should be taken when using.  
Depending on the situation, please use the proper analog/digital output.
- The SG MODE outputs color difference and RGB only. Therefore, in the case of CVBS, only the Y input is used resulting in no color.  
This is not a damage result nor error.
- The SG MODE's ANA AD RGB (route to input 525i to AD by RGB) as a set's route, the setting does not exist. For this account the latter part from MVDEC does not have set values, resulting in having funny colors in colorbar, the brightness changes after switching, etc.  
This is not a damage result nor error.
- Depending on MVDEC's part version, ANA\_MVDEC\_YCBCR may not display colors.

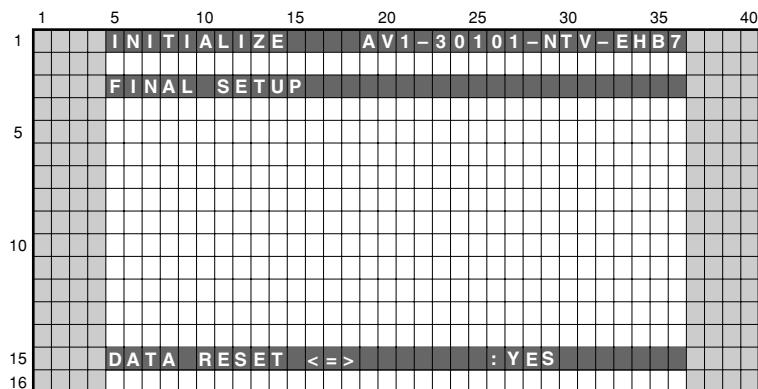
#### 8.2.4.4 SIDE MASK LEVEL



To configure sidemask's R, G, B level (To adjust the values, input signal is required).

| No. | Display        | Content                                           | RS-232C |
|-----|----------------|---------------------------------------------------|---------|
| 1   | R MASK LEVEL ⇔ | Adjust Side Mask R (Adjustable range: 000 to 255) | RSL     |
| 2   | G MASK LEVEL ⇔ | Adjust Side Mask G (Adjustable range: 000 to 255) | GSL     |
| 3   | B MASK LEVEL ⇔ | Adjust Side Mask B (Adjustable range: 000 to 255) | BSL     |

#### 8.2.4.5 FINAL SETUP



- To reset each memory value to factory default values. Factory command is "FST".
- When the configuration is set to <NO> and the [SET] key is pressed, no action is taken and the menu returns to previous screen.
- When the configuration is set to <YES> and the [SET] key is pressed for 5 seconds, the reset action executes.

#### 8.2.4.6 CVT AUTO

Exclusively used for technical analysis (details omitted).

#### 8.2.4.7 HDMI INTR POSITION (+)

Exclusively used for technical analysis (details omitted).

## 9. RS-232C

### 9.1 OUTLINE OF RS-232C COMMAND

#### 9.1.1 PREPARED TOOLS

It is necessary to prepare the following one to use 232C command.

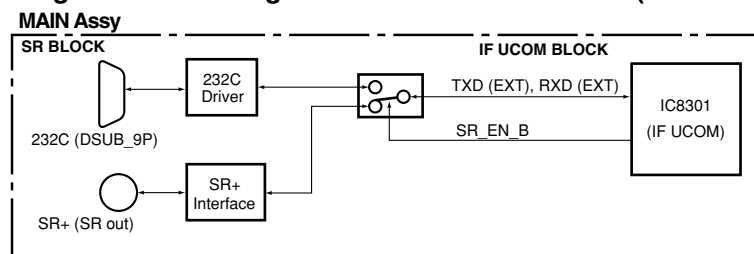
- PC
- Application for control
- 232C cable (straight)
- \* It is likely not to move correctly in Win 98 faction/Me and Win for foreign countries.
- \* The setting of the Com port cannot be communicated if it doesn't do correctly.  
(Please follow a set explanation of PC in the Com port)

#### 9.1.2 USING RS-232C COMMANDS

For the PDP-4270XD, PDP-4270XA, PDP-427XD and PDP-427XA series Plasma Displays, the circuitry is structured as shown in the diagram below to support the SR+ system. Controlling with either the SR+ system or RS-232C commands can be selected.

As the SR+ system is selected at shipment, to control with RS-232C commands in servicing it is necessary to switch the paths. After servicing, be sure to return the setting to the SR+ system.

#### ■ Rough diagram of switching between SR+ and RS-232C (STEP-UP Model Only)



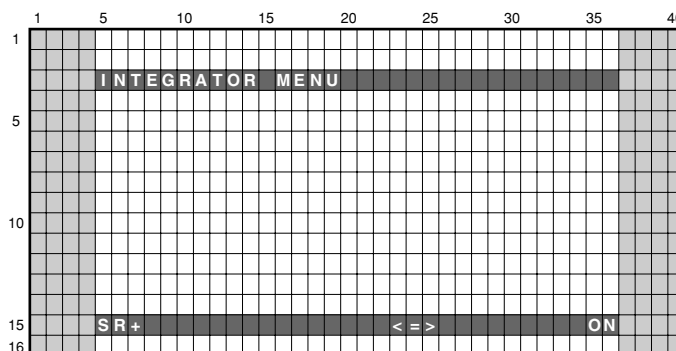
#### ■ How to switch SR+/RS-232C (STEP-UP Model Only)

There are "How to switch SR+/RS-232C by remote control in the Standby Mode" and "How to switch SR+/RS-232C by remote control in the INTEGRATOR MENU" as a Method

- ① To select SR+/RS-232C by remote control in Standby Mode.
  - During Standby mode, hold the keys other than the [POWER] key on the remote control, the following operation is done within 10 seconds.

To select from SR+ to RS-232C/To select from RS-232C to SR+.

  - During standby mode, hold the [VOLUME+ (or -)] key on the remote control unit pressed for 3 to 10 seconds.  
→Then within 3 seconds after the key is released, hold the [2-screen] key released, use the [SET (ENTER)] key on the remote control unit to set to RS-232C (the baud rate last selected is chosen) or the [HOME MENU] key to set to SR+.
  - During IF Standby mode (once 10 seconds or more has passed after the LED goes dark during communication), the first keypress may not be accepted. In such a case, for a key operation, first press any key other than the [POWER] key and [CH] keys, then the desired key.
  - At the switch SR+/RS-232C, the LED will be blinked on the fixed time.
- ② To select SR+/RS-232C in the INTEGRATOR MENU.
  - How to enter INTEGRATOR MENU.  
During standby mode, press the [Home Menu] key, and then press the [POWER] key within 3 seconds. During factory mode, hold the [INTEGRATOR] key.
  - In INTEGRATOR MENU, there is a OSD where SR+ (or RS-232C) is turned on/off, and it switches on the screen.



## 9.1.3 COMMAND PROTOCOL

### ■ Communication protocol : Asynchronous serial communication by RS-232C

Start bit length : 1 bit  
 Data width : 8 bit (ASCII codes/There is no distinction between the capital letter and the small letter)  
 Parity : None  
 Stop bit length : 1 bit  
 Baud rate : 9600 bps (Fixed)

### ■ Regulating function

Direct numerical value effective: The adjustment value can be set directly by transmitting the figure to the mark of the command.

### ■ Data format

The control signal format sent from the user side controller is as follows. When the transmission data is completed STX (02 (Hex)), the command of ETX (03 (Hex)) is arranged when beginning to communicate. And, ID, the command, and the parameter are arranged between those. Data is assumed to be ASCII form alphanumeric character. Neither the capital letter nor the small letter are distinguished.

• Only for the command

| STX  | ID | Command | ETX  |
|------|----|---------|------|
| 0x02 | ** | □□□     | 0x03 |

• When you accompany setting/adjustment data

| STX  | ID | Command | Parameter | ETX  |
|------|----|---------|-----------|------|
| 0x02 | ** | □□□     | △△△       | 0x03 |

### ■ Command processing

When the command is input, the command processing begins processing.

ID is assumed to be 2 asterisk "\*\*".

### ■ Reception confirmation

The module microcomputer judges right or wrong for the command received from the main side.

If it is an effective command, processing is executed. And, the reply of the received command is done when entering the following state of the command standby after processing is completed.

The replying data replies data that deletes the ID code from the reception command by the capital letter.

• When you accompany setting/adjustment data

Send data to PC

| STX  | ID | Command | Parameter | ETX  |
|------|----|---------|-----------|------|
| 0x02 | ** | □□□     | △△△       | 0x03 |

Receive data

| STX  | Command | Parameter | ETX  |
|------|---------|-----------|------|
| 0x02 | □□□     | △△△       | 0x03 |

• Only for the command

Send data to PC

| STX  | ID | Command | ETX  |
|------|----|---------|------|
| 0x02 | ** | □□□     | 0x03 |

Receive data

| STX  | Command | ETX  |
|------|---------|------|
| 0x02 | □□□     | 0x03 |

In this case, "ERR" replies if it is a command of the uncorrespondence.

The command replies "XXX" when processing on status cannot be executed even if it is effective.

• For an Invalid command

Send data to PDP system

| STX  | ID | Command | ETX  |
|------|----|---------|------|
| 0x02 | ** | □□□     | 0x03 |

Receive data

| STX  | Command | ETX  |
|------|---------|------|
| 0x02 | ERR     | 0x03 |

• For the command that cannot be executed on status

Send data to PDP system

| STX  | ID | Command | ETX  |
|------|----|---------|------|
| 0x02 | ** | □□□     | 0x03 |

Receive data

| STX  | Command | ETX  |
|------|---------|------|
| 0x02 | XXX     | 0x03 |

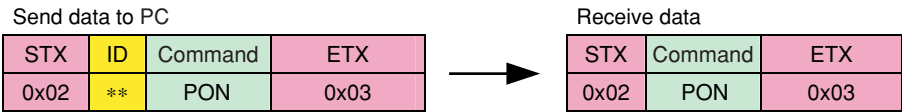
### ■ Processing in the case of an error

When the communication error occurs from STX between ETX, the processing of a pertinent command is discontinued, and the reception buffer is cleared. When STX is received, the command reception processing keeps storing the transmitted character string in the register.

And, the character string placed by the ETX reception between STX-ETX is interpreted as a command.

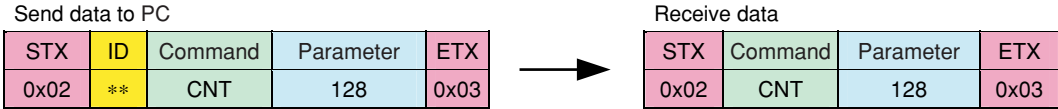
### Single functional command

The command to which operation is concluded only by command. The command parts are 3 characters.



### Adjustment command and adjustment value

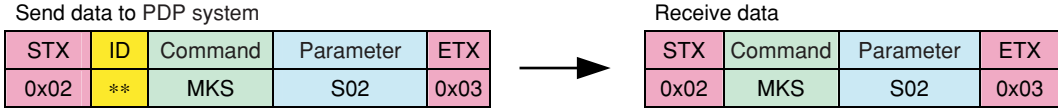
- The command to which value of parameter is changed attended with adjustment value. The command parts are 3 characters.
- The adjustment value is the numeric character data of the decimal number 3 characters. It is made the range of 000-999. The range that can be adjusted is different according to the function to adjust (It is noted that then, it is not uniformly to 999).



- \* When the received command exceeds the range where the adjustment value can be adjusted, "XXX" is transmitted.
- \* When the same adjustment value is continuously transmitted two times or more, "XXX" doesn't reply, though it is an invalid command. It's overwritten, and ACK that deletes ID replies.

### Set command and Set value

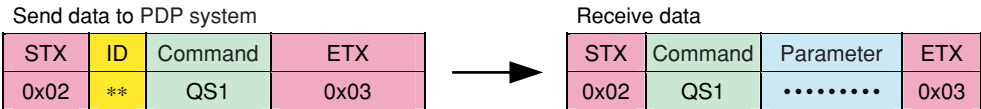
- The command to which set value of parameter is changed attended with set value. The command parts are 3 characters.
- Set values are three characters. The first character is fixed to "S".  
2 remainder characters are assumed to be assumption S00-S99 as the decimal number.



- \* When the received command doesn't exist as a set value, "XXX" is transmitted.
- \* When the same set value is continuously transmitted two times or more, "XXX" doesn't reply, though it is an invalid command. It's overwritten, and ACK that deletes ID replies.

### State acquisition command

- The command that reports on state of operation and set value, etc. to system side.
- The content that corresponds by the kind of the command is read from the memory, when the command is received from the system side and it replies.
- The command parts are three characters. The first character is fixed to "Q". It sets since the second character according to the content of information.
- The reply data is transmitted adding various data that converts the received command and ASCII code and the checksum of the data. Because the content of the reply changes according to the kind of the "QUEST command", the data length follows an individual, individual specification.



## A ■ Adjustment assistance command

The Adjustment Assistance Command is combined and used with the Adjustment Command.

- The Adjustment Command + Adjustment Assistance Command ⇒ It addition/subtracts it from a present adjustment value.

**Note:** When the received command exceeds the range of the adjustment value, it changes to MAX/MIN.

- The adjustment command immediately before is made efficacy when only the adjustment command (addition/subtraction command) is received alone after the adjustment command receptions completed, and it makes it to the value addition/subtracted from a present adjustment value. However, it applies to the command when other commands are received.

- Kind of Adjustment Assistance Command (addition/subtraction command)

UP1 to UP9, UP0, UPF: 1 to 10 is added to a setting value.

UPF: It makes it to the maximum value ("VOL" command).

DW1 to DW9, DW0, DWF: 1 to 10 is subtracted a setting value.

DWF: It makes it to the minimum value ("VOL" command).

FWD: One Preset CH is previously advanced ("CHN" command).

REV: One Preset CH is returned in the front ("CHN" Command).

Send data to PDP system

| STX  | ID | Command | Subcommand | ETX  |
|------|----|---------|------------|------|
| 0x02 | ** | VOL     | UP1        | 0x03 |



Receive data

| STX  | Command | Subcommand | ETX  |
|------|---------|------------|------|
| 0x02 | VOL     | UP1        | 0x03 |

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## 9.2 LIST OF RS-232C COMMANDS

RS-232C commands can be used in Service Factory mode. Before using RS-232C commands, it is necessary to change the factory presetting. See "9.1 OUTLINE OF THE RS-232C".

[Note ; If you want to see version information (ex. QS1, QS6, Factory, Menu), Please see 10 seconds after starting.]

### RS-232C command list

| Command Name |       | Function                                                                                     | Active U-com |     | Last Memory | Effective only in Factory mode | Remarks |
|--------------|-------|----------------------------------------------------------------------------------------------|--------------|-----|-------------|--------------------------------|---------|
|              |       |                                                                                              | MDU          | MTB |             |                                |         |
| A            |       |                                                                                              |              |     |             |                                |         |
| ABL          | ***   | Adjusting the upper limit of the power                                                       | ●            |     | Mod         | ●                              |         |
| AMT          | SD0   | Audio mute OFF                                                                               |              | ●   |             |                                |         |
|              | SD1   | Audio mute ON                                                                                |              | ●   |             |                                |         |
| APW          | S00   | WB correction interlocked with APL: OFF                                                      | ●            |     |             | ●                              |         |
|              | S01   | WB correction interlocked with APL: ON                                                       | ●            |     |             | ●                              |         |
| B            |       |                                                                                              | MDU          | MTB |             |                                |         |
| BCP          |       | Copying the backup data in the EEPROM                                                        | ●            |     |             | ●                              |         |
| BHI          | ***   | User white balance : BLUE highlight                                                          | ●            |     |             |                                |         |
| BLW          | ***   | User white balance : BLUE lowlight                                                           | ●            |     |             |                                |         |
| BRT          | ***   | User brightness                                                                              | ●            |     |             |                                |         |
| BSM          | S00   | After image/Burning safe mode: OFF                                                           | ●            |     |             |                                |         |
|              | S01   | After image/Burning safe mode: ON                                                            | ●            |     |             |                                |         |
| BSL          |       | Adjusting Side Mask Level BLUE                                                               |              | ●   |             |                                |         |
| • • •        |       |                                                                                              |              |     |             |                                |         |
| C            |       |                                                                                              | MDU          | MTB |             |                                |         |
| CBU          |       | Clearing backup data of EEPROM                                                               | ●            |     |             | ●                              |         |
| CHM          |       | Clearing data of the hour meter                                                              | ●            |     |             | ●                              |         |
| CHN          | FWD   | Changing tuner preset channel (1 step forward)                                               |              | ●   |             |                                |         |
|              | REV   | Changing tuner preset channel (1 step reverse)                                               |              | ●   |             |                                |         |
| CHR          |       | Clearing data of the hour meter of MTB side                                                  |              | ●   |             | ●                              |         |
| CNT          | ***   | User contrast                                                                                | ●            |     |             |                                |         |
| CMT          |       | Clearing data of the maximum temperature                                                     | ●            |     |             | ●                              |         |
| CPC          |       | Clearing power-on count data                                                                 | ●            |     |             | ●                              |         |
| CPD          |       | Clearing power-down history                                                                  | ●            |     |             | ●                              |         |
| CPM          |       | Clearing data of the pulse meter                                                             | ●            |     |             | ●                              |         |
| CSD          |       | Clearing shutdown history                                                                    | ●            |     |             | ●                              |         |
| CTM          |       | Clearing working log                                                                         | ●            |     |             | ●                              |         |
| D            |       |                                                                                              | MDU          | MTB |             |                                |         |
| DRV          | S00   | Main power off                                                                               | ●            |     |             |                                |         |
|              | S01   | Main power on                                                                                | ●            |     |             |                                |         |
| DW*          |       | To subtract *** to the adjustment value (*** = 000 to 999, designated by a function command) |              | ●   |             |                                |         |
| E            |       |                                                                                              | MDU          | MTB |             |                                |         |
| ESV          | S00   | Setting Power Consumption mode to normal sequence & normal curve                             | ●            |     |             |                                |         |
|              | S01   | Setting Power Consumption mode to silent sequence & normal curve                             | ●            |     |             |                                |         |
|              | S02   | Setting Power Consumption mode to silent sequence & power-saving curve                       | ●            |     |             |                                |         |
|              | • • • |                                                                                              |              |     |             |                                |         |
|              | • • • |                                                                                              |              |     |             |                                |         |
|              | • • • |                                                                                              |              |     |             |                                |         |
| F            |       |                                                                                              | MDU          | MTB |             |                                |         |
| FAJ          |       | Determining the flag of the DIGITAL Assy adjustment in "adjustment is completed"             | ●            |     |             | ●                              |         |
| FAN          |       | Factory mode off                                                                             | ●            | ●   |             | ●                              |         |
| FAY          |       | Factory mode on                                                                              | ●            | ●   |             |                                |         |
| FST          |       | Set each memory setting of MTB side to the shipment state.                                   |              | ●   |             |                                |         |
| G            |       |                                                                                              | MDU          | MTB |             |                                |         |
| GHI          | ***   | User white balance : GREEN highlight                                                         | ●            |     |             |                                |         |
| GLW          | ***   | User white balance : GREEN lowlight                                                          | ●            |     |             |                                |         |
| GSL          |       | Green side mask level adjustment                                                             |              | ●   |             | ●                              |         |

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| Command Name |       | Function                                                                                         |   | Active U-com |     | Last Memory | Effective only in Factory mode | Remarks |
|--------------|-------|--------------------------------------------------------------------------------------------------|---|--------------|-----|-------------|--------------------------------|---------|
|              |       |                                                                                                  |   | MDU          | MTB |             |                                |         |
| I            |       |                                                                                                  |   |              |     |             |                                |         |
| INA          | • • • |                                                                                                  |   |              |     |             |                                |         |
|              | • • • |                                                                                                  |   |              |     |             |                                |         |
|              | ***   | Switching the terrestrial analog signal                                                          |   | ●            |     |             |                                |         |
| INB          |       |                                                                                                  |   |              |     |             |                                |         |
| INC          | ***   | Switching the terrestrial digital signal (EUC is Step-upD and RegularD only, and IBD is AU only) |   | ●            |     |             |                                |         |
| IND          |       |                                                                                                  |   |              |     |             |                                |         |
| INE          |       |                                                                                                  |   |              |     |             |                                |         |
| INF          |       |                                                                                                  |   |              |     |             |                                |         |
| ING          |       |                                                                                                  |   |              |     |             |                                |         |
| INH          |       |                                                                                                  |   |              |     |             |                                |         |
| INP          | S01   | Input switch: INPUT 1                                                                            |   | ●            |     |             |                                |         |
|              | S02   | Input switch: INPUT 2                                                                            |   | ●            |     |             |                                |         |
|              | S03   | Input switch: INPUT 3                                                                            |   | ●            |     |             |                                |         |
|              | S04   | Input switch: INPUT 4                                                                            |   | ●            |     |             |                                |         |
|              | S05   | Input switch: INPUT 5 (Step-up Only)                                                             |   | ●            |     |             |                                |         |
|              | S06   | Input switch: INPUT 6 (PC. Step-up Only)                                                         |   | ●            |     |             |                                |         |
|              |       |                                                                                                  |   |              |     |             |                                |         |
| K            |       |                                                                                                  |   | MDU          | MTB |             |                                |         |
| KDD          |       |                                                                                                  |   |              |     |             |                                |         |
| M            |       |                                                                                                  |   | MDU          | MTB |             |                                |         |
| MKC          | S00   | MASK off                                                                                         | ● |              | Mod | ●           |                                |         |
|              | S01   | H ramp (slant 1) M                                                                               | ● |              | Mod | ●           |                                |         |
|              | S02   | H ramp (slant 4) M                                                                               | ● |              | Mod | ●           |                                |         |
|              | S03   | Slanting ramp M                                                                                  | ● |              | Mod | ●           |                                |         |
|              | S04   | 30 for aging                                                                                     | ● |              | Mod | ●           |                                |         |
|              | S05   | 05 for aging                                                                                     | ● |              | Mod | ●           |                                |         |
|              | S06   | Erasing afterimage 1                                                                             | ● |              | Mod | ●           |                                |         |
|              | S07   | Erasing afterimage 2 (RGB: zigzag, V: reverse)                                                   | ● |              | Mod | ●           |                                |         |
|              | S08   | White (change in luminance level)                                                                | ● |              | Mod | ●           |                                |         |
|              | S09   | PEAK SEEK RASTER                                                                                 | ● |              | Mod | ●           |                                |         |
|              | S10   | For engineering use                                                                              | ● |              | Mod | ●           |                                |         |
| MKS          | S00   | MASK off                                                                                         | ● |              | Mod |             |                                |         |
|              | S01   | H ramp (slant 1)                                                                                 | ● |              | Mod | ●           |                                |         |
|              | S02   | H ramp (slant 4)                                                                                 | ● |              | Mod | ●           |                                |         |
|              | S03   | V ramp (slant 1)                                                                                 | ● |              | Mod | ●           |                                |         |
|              | S04   | Slanting ramp                                                                                    | ● |              | Mod | ●           |                                |         |
|              | S05   | Window (Hi= 870, Lo= 102)                                                                        | ● |              | Mod | ●           |                                |         |
|              | S06   | Window (Hi= 1023, Lo= 102)                                                                       | ● |              | Mod | ●           |                                |         |
|              | S07   | Window (Hi= 1023)                                                                                | ● |              | Mod | ●           |                                |         |
|              | S08   | Window (Hi= 1023) 4 %                                                                            | ● |              | Mod | ●           |                                |         |
|              | S09   | Window (Hi= 1023) 1.25 %                                                                         | ● |              | Mod | ●           |                                |         |
|              | S10   | Window (1/7 LINE)                                                                                | ● |              | Mod | ●           |                                |         |
|              | S11   | STRIPE (MGT/GRN)                                                                                 | ● |              | Mod | ●           |                                |         |
|              | S12   | STRIPE (GRN/MGT)                                                                                 | ● |              | Mod | ●           |                                |         |
|              | S13   | B & W, checker (1 line)                                                                          | ● |              | Mod | ●           |                                |         |
|              | S14   | B & W, checker (2 lines)                                                                         | ● |              | Mod | ●           |                                |         |

| Command Name |     | Function                             | Active U-com |     | Last Memory | Effective only in Factory mode | Remarks |
|--------------|-----|--------------------------------------|--------------|-----|-------------|--------------------------------|---------|
|              |     |                                      | MDU          | MTB |             |                                |         |
| M            |     |                                      |              |     |             |                                |         |
| MKS          | S15 | B & W, checker (4 lines)             | ●            |     | Mod         | ●                              |         |
|              | S16 | B & W, checker (8 lines)             | ●            |     | Mod         | ●                              |         |
|              | S17 | COLOR BAR                            | ●            |     | Mod         | ●                              |         |
|              | S18 | Slanting lines                       | ●            |     | Mod         | ●                              |         |
|              | S19 | Red & black, checker (1 line)        | ●            |     | Mod         | ●                              |         |
|              | S20 | Red & black, checker (2 lines)       | ●            |     | Mod         | ●                              |         |
|              | S21 | Red & black, checker (4 ines)        | ●            |     | Mod         | ●                              |         |
|              | S22 | Red & black, checker (8 lines)       | ●            |     | Mod         | ●                              |         |
|              | S23 | RGB zigzag, V reverse                | ●            |     | Mod         | ●                              |         |
|              | S24 | SUS 2000 pulses (black raster)       | ●            |     | Mod         | ●                              |         |
|              | S25 | Window (Hi= 870, Lo= 102) Pattern 3  | ●            |     | Mod         | ●                              |         |
|              | S26 | Window (Hi= 1023, Lo= 102) Pattern 3 | ●            |     | Mod         | ●                              |         |
|              | S27 | Window (Hi= 1023) Pattern 3          | ●            |     | Mod         | ●                              |         |
|              | S28 | Window (Hi= 1023) 4 % Pattern 3      | ●            |     | Mod         | ●                              |         |
|              | S29 | Window (Hi= 1023) 1.25 % Pattern 3   | ●            |     | Mod         | ●                              |         |
|              | S30 | Window (1/7 LINE) Pattern 3          | ●            |     | Mod         | ●                              |         |
|              | S31 | Noise ON - White                     | ●            |     | Mod         | ●                              |         |
|              | S32 | Noise ON - Red                       | ●            |     | Mod         | ●                              |         |
|              | S33 | Noise ON - Green                     | ●            |     | Mod         | ●                              |         |
|              | S34 | Noise ON - Blue                      | ●            |     | Mod         | ●                              |         |
|              | S35 | Noise ON - Black                     | ●            |     | Mod         | ●                              |         |
|              | S36 | For engineering use                  | ●            |     | Mod         | ●                              |         |
|              | S37 | For engineering use                  | ●            |     | Mod         | ●                              |         |
|              | S38 | For engineering use                  | ●            |     | Mod         | ●                              |         |
|              | S39 | For engineering use                  | ●            |     | Mod         | ●                              |         |
|              | S51 | Raster - White                       | ●            |     | Mod         | ●                              |         |
|              | S52 | Raster - Red                         | ●            |     | Mod         | ●                              |         |
|              | S53 | Raster - Green                       | ●            |     | Mod         | ●                              |         |
|              | S54 | Raster - Blue                        | ●            |     | Mod         | ●                              |         |
|              | S55 | Raster - Black                       | ●            |     | Mod         | ●                              |         |
|              | S56 | Raster - Cyan                        | ●            |     | Mod         | ●                              |         |
|              | S57 | Raster - Magenta                     | ●            |     | Mod         | ●                              |         |
|              | S58 | Raster - Yellow                      | ●            |     | Mod         | ●                              |         |
|              | S59 | RASTER09: Red 588                    | ●            |     | Mod         | ●                              |         |
|              | S60 | RASTER10: Cyan 460                   | ●            |     | Mod         | ●                              |         |
|              | S61 | RASTER11: Green 774                  | ●            |     | Mod         | ●                              |         |
|              | S62 | RASTER12: Gray 313                   | ●            |     | Mod         | ●                              |         |
|              | S63 | RASTER13: Gray 912                   | ●            |     | Mod         | ●                              |         |
|              | S64 | RASTER14: Magenta1023                | ●            |     | Mod         | ●                              |         |
|              | S65 | RASTER15: Pale orange                | ●            |     | Mod         | ●                              |         |
|              | S66 | RASTER16: Sky color                  | ●            |     | Mod         | ●                              |         |
|              | S67 | RASTER17: Pale purple                | ●            |     | Mod         | ●                              |         |
|              | S68 | RASTER18: Magenta 54                 | ●            |     | Mod         | ●                              |         |
|              | S69 | RASTER19: Red 1023+                  | ●            |     | Mod         | ●                              |         |
|              | S70 | RASTER20: Green 1023+                | ●            |     | Mod         | ●                              |         |
|              | S71 | RASTER21: Blue 1023+                 | ●            |     | Mod         | ●                              |         |
|              | S72 | RASTER22: Red 588+                   | ●            |     | Mod         | ●                              |         |
|              | S73 | RASTER23: Green 588+                 | ●            |     | Mod         | ●                              |         |
|              | S74 | RASTER24: Blue 588+                  | ●            |     | Mod         | ●                              |         |

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| Command Name |     | Function                                                                                          | Active U-com |     | Last Memory | Effective only in Factory mode | Remarks |
|--------------|-----|---------------------------------------------------------------------------------------------------|--------------|-----|-------------|--------------------------------|---------|
|              |     |                                                                                                   | MDU          | MTB |             |                                |         |
| M            |     |                                                                                                   |              |     |             |                                |         |
| MST          | S00 | Display one screen                                                                                |              | ●   |             |                                |         |
|              | S01 | PsideP (Main size : normal)                                                                       |              | ●   |             |                                |         |
|              | S02 | PinP (Right_down)                                                                                 |              | ●   |             |                                |         |
|              | S03 | PinP (Right_up)                                                                                   |              | ●   |             |                                |         |
|              | S04 | PinP (Left_up)                                                                                    |              | ●   |             |                                |         |
|              | S05 | PinP (Left_down)                                                                                  |              | ●   |             |                                |         |
|              | S06 | PsideP (Main size : center)                                                                       |              | ●   |             |                                |         |
|              | S07 | PsideP (Main size : large)                                                                        |              | ●   |             |                                |         |
|              | S08 | SWAP (Exchanging sub-screen)                                                                      |              | ●   |             |                                |         |
| O            |     |                                                                                                   |              |     |             |                                |         |
| OSD          | S00 | Turning OSD setting to off                                                                        |              | ●   |             |                                |         |
|              | S01 | Turning OSD setting to on                                                                         |              | ●   |             |                                |         |
| P            |     |                                                                                                   |              |     |             |                                |         |
| PAV          | S** | Switching panel functions interlocked with the AV selection                                       | ●            |     |             |                                |         |
| PBH          | *** | Panel white balance adjustment - Blue highlight                                                   | ●            |     | Mod         | ●                              |         |
| PBL          | *** | Panel white balance adjustment - Blue low light                                                   | ●            |     | Mod         | ●                              |         |
| PDM          | S00 | Passing PD signals to the Power SUPPLY Unit => Power-down                                         | ●            |     |             |                                |         |
|              | S01 | Not passing PD signals to the Power SUPPLY Unit => No power-down                                  | ●            |     |             |                                |         |
| PFN          |     | Factory mode: off                                                                                 | ●            |     |             | ●                              |         |
| PFS          |     | Setup at shipment                                                                                 | ●            |     |             | ●                              |         |
| PFY          |     | Factory mode: on                                                                                  | ●            |     |             | ●                              |         |
| PGH          | *** | Panel white balance adjustment - Green highlight                                                  | ●            |     | Mod         | ●                              |         |
| PGL          | *** | Panel white balance adjustment - Green low light                                                  | ●            |     | Mod         | ●                              |         |
| PGM          | S** | Setting of the gamma table                                                                        | ●            |     |             |                                |         |
| PMT          | S00 | Canceling panel muting                                                                            | ●            |     |             |                                |         |
|              | S01 | Panel muting                                                                                      | ●            |     |             |                                |         |
| POF          |     | Power off                                                                                         | ●            | ●   | Main        |                                |         |
| PON          |     | Power on                                                                                          | ●            | ●   | Main        |                                |         |
| PPT          | S00 | Panel protection: off                                                                             | ●            |     |             | ●                              |         |
|              | S01 | Panel protection: on                                                                              | ●            |     |             | ●                              |         |
| PRH          | *** | Panel white balance adjustment - Red highlight                                                    | ●            |     | Mod         | ●                              |         |
| PRL          | *** | Panel white balance adjustment - Red low light                                                    | ●            |     | Mod         | ●                              |         |
| PUC          | S00 | Pure cinema: off                                                                                  | ●            | ●   |             | ●                              |         |
|              | S01 | Pure cinema: standard                                                                             | ●            | ●   |             | ●                              |         |
|              | S02 | Pure cinema: advanced                                                                             | ●            | ●   |             | ●                              |         |
| Q            |     |                                                                                                   |              |     |             |                                |         |
| QAJ          |     | Acquiring various adjustment values                                                               | ●            |     |             |                                |         |
| QIP          |     | Acquiring various input signal data                                                               | ●            |     |             |                                |         |
| QMT          |     | Acquiring temperature of MTB side and Fan speed                                                   |              | ●   |             |                                |         |
| QNG          |     | Acquiring shut-down information of MTB side                                                       |              | ●   |             |                                |         |
| QPD          |     | Acquiring logs of power-down points                                                               | ●            |     |             |                                |         |
| QPM          |     | Acquiring data of the pulse meter                                                                 | ●            |     |             |                                |         |
| QPW          |     | Acquiring panel white balance adjustment values                                                   | ●            |     |             |                                |         |
| QS1          |     | Acquiring unit data, such as the software version common to all models, regardless of destination | ●            | ●   |             |                                |         |
| QS2          |     | Acquiring data on the status of the unit, such as temperature                                     | ●            |     |             |                                |         |
| QS6          |     | Acquiring unit data, such as the software version common to all models, regardless of destination |              | ●   |             |                                |         |
| QSD          |     | Acquiring data on shutdown                                                                        | ●            |     |             |                                |         |

| Command Name | Function |                                                                                          | Active U-com                                              |     | Last Memory | Effective only in Factory mode | Remarks |
|--------------|----------|------------------------------------------------------------------------------------------|-----------------------------------------------------------|-----|-------------|--------------------------------|---------|
|              |          |                                                                                          | MDU                                                       | MTB |             |                                |         |
| Q            |          |                                                                                          |                                                           |     |             |                                |         |
| QSI          |          | Acquiring data related with signals                                                      | ●                                                         |     |             |                                |         |
| R            |          |                                                                                          |                                                           |     |             |                                |         |
| RBL          | S**      | Setting of blue level for panel degradation correction                                   | ●                                                         |     | Mod         | ●                              |         |
| RGL          | S**      | Setting of green level for panel degradation correction                                  | ●                                                         |     | Mod         | ●                              |         |
| RHI          | ***      | User white balance - Red highlight                                                       | ●                                                         |     |             |                                |         |
| RLW          | ***      | User white balance - Red low light                                                       | ●                                                         |     |             |                                |         |
| RRL          | S**      | Setting of red level for panel degradation correction                                    | ●                                                         |     | Mod         | ●                              |         |
| RSL          | ***      | Adjustment of the Red side mask level                                                    |                                                           | ●   |             | ●                              |         |
| RSW          | ***      | Adjustment of the width of XY reset pulse 1                                              | ●                                                         |     | Mod         | ●                              |         |
| RYW          | ***      | Adjustment of the width of XY reset pulse 2                                              | ●                                                         |     | Mod         | ●                              |         |
| S            |          |                                                                                          |                                                           |     |             |                                |         |
| SDM          | S00      | Shutdown enabled                                                                         | ●                                                         |     |             |                                |         |
|              | S01      | Shutdown prohibited                                                                      | ●                                                         |     |             |                                |         |
| SFR          | S01      | Measures against AM radio noise - Pattern 1                                              | ●                                                         |     | Mod         | ●                              |         |
|              | S02      | Measures against AM radio noise - Pattern 2                                              | ●                                                         |     | Mod         | ●                              |         |
|              | S03      | Measures against AM radio noise - Pattern 3                                              | ●                                                         |     | Mod         | ●                              |         |
|              | S04      | Measures against AM radio noise - Pattern 4                                              | ●                                                         |     | Mod         | ●                              |         |
|              | S05      | Measures against AM radio noise - Pattern 5                                              | ●                                                         |     | Mod         | ●                              |         |
|              | S06      | Measures against AM radio noise - Pattern 6                                              | ●                                                         |     | Mod         | ●                              |         |
|              | S07      | Measures against AM radio noise - Pattern 7                                              | ●                                                         |     | Mod         | ●                              |         |
|              | S08      | Measures against AM radio noise - Pattern 8                                              | ●                                                         |     | Mod         | ●                              |         |
|              | SMM      | S**                                                                                      | Setting of the effective area during streaking correction | ●   |             |                                | ●       |
| SN0          | ***      | Setting of the serial No. 0 (panel)                                                      | ●                                                         |     | Mod         | ●                              |         |
| SN1          | ***      | Setting of the serial No. 1 (panel)                                                      | ●                                                         |     | Mod         | ●                              |         |
| SN2          | ***      | Setting of the serial No. 2 (panel)                                                      | ●                                                         |     | Mod         | ●                              |         |
| SN3          | ***      | Setting of the serial No. 3 (panel)                                                      | ●                                                         |     | Mod         | ●                              |         |
| SN4          | ***      | Setting of the serial No. 4 (panel)                                                      | ●                                                         |     | Mod         | ●                              |         |
| SZM          | S00      | Setting the screen size to Dot by Dot or PARTIAL                                         |                                                           | ●   |             |                                |         |
|              | S01      | Setting the screen size to 4 :3                                                          |                                                           | ●   |             |                                |         |
|              | S02      | Setting the screen size to FULL or FULL1080i                                             |                                                           | ●   |             |                                |         |
|              | S03      | Setting the screen size to ZOOM                                                          |                                                           | ●   |             |                                |         |
|              | S04      | Setting the screen size to CINEMA                                                        |                                                           | ●   |             |                                |         |
|              | S05      | Setting the screen size to WIDE                                                          |                                                           | ●   |             |                                |         |
|              | S06      | Setting the screen size to FULL 14 : 9                                                   |                                                           | ●   |             |                                |         |
|              | S07      | Setting the screen size to CINEMA 14 : 9                                                 |                                                           | ●   |             |                                |         |
|              | S08      | Setting the screen size to FULL1035                                                      |                                                           | ●   |             |                                |         |
| T            |          |                                                                                          |                                                           |     |             |                                |         |
| —            |          | —                                                                                        |                                                           |     |             |                                |         |
| U            |          |                                                                                          |                                                           |     |             |                                |         |
| UAJ          |          | Determining the flag for the DIGITAL Assy adjustment in "not adjusted"                   | ●                                                         |     |             |                                |         |
| UP*          |          | To add *** to the adjustment value (***) = 000 to 999, designated by a function command) |                                                           | ●   |             |                                |         |

A

B

C

D

E

F

| Command Name |               | Function                                                                 | Active U-com |     | Last Memory | Effective only in Factory mode | Remarks |
|--------------|---------------|--------------------------------------------------------------------------|--------------|-----|-------------|--------------------------------|---------|
|              |               |                                                                          | MDU          | MTB |             |                                |         |
| V            |               |                                                                          |              |     |             |                                |         |
| VFQ          | S01           | Setting the frequency in Mask mode to VD-48 Hz                           | ●            |     | Mod         | ●                              |         |
|              | S02           | Setting the frequency in Mask mode to VD-50 Hz                           | ●            |     | Mod         | ●                              |         |
|              | S03           | Setting the frequency in Mask mode to VD-60 Hz                           | ●            |     | Mod         | ●                              |         |
|              | S05           | Setting the frequency in Mask mode to VD-72 Hz                           | ●            |     | Mod         | ●                              |         |
|              | S06           | Setting the frequency in Mask mode to VD-75 Hz                           | ●            |     | Mod         | ●                              |         |
|              | S13           | Setting the frequency in Mask mode to PC-60 Hz                           | ●            |     | Mod         | ●                              |         |
|              | S14           | Setting the frequency in Mask mode to PC-70 Hz                           | ●            |     | Mod         | ●                              |         |
|              | S22           | Setting the frequency in Mask mode to VD-50 Hz (nonstandard)             | ●            |     | Mod         | ●                              |         |
|              | S23           | Setting the frequency in Mask mode to VD-60 Hz (nonstandard)             | ●            |     | Mod         | ●                              |         |
|              | S25           | Setting the frequency in Mask mode to VD-72 Hz (nonstandard)             | ●            |     | Mod         | ●                              |         |
|              | S26           | Setting the frequency in Mask mode to VD-75 Hz (nonstandard)             | ●            |     | Mod         | ●                              |         |
| VOF          | ***           | Adjustment of the reference value of Vofs voltage                        | ●            |     |             | ●                              |         |
| VOL          | UP*, DW*, *** | To adjust the volume (to be used in combination with UP*/DW*)            |              | ●   |             |                                |         |
| VRP          | ***           | Adjustment of the reference value of Vrst-p voltage                      | ●            |     |             | ●                              |         |
| VSU          | ***           | Adjustment of the reference value of Vsus voltage                        | ●            |     |             | ●                              |         |
| W            |               |                                                                          |              |     |             |                                |         |
| WBI          | S00           | Panel WB standard output mode: off                                       | ●            |     |             | ●                              |         |
| WBI          | S01           | Panel WB standard output mode: on                                        | ●            |     |             | ●                              |         |
| X            |               |                                                                          |              |     |             |                                |         |
| XSB          | ***           |                                                                          | ●            |     | Mod         | ●                              |         |
| Y            |               |                                                                          |              |     |             |                                |         |
| YSB          | ***           | Y-SUS-B ADJ                                                              | ●            |     | Mod         | ●                              |         |
| YTB          | ***           | Y-SUSTAIL T2 ADJ                                                         | ●            |     | Mod         | ●                              |         |
| YTG          | ***           | Y-SUSTAIL T1 ADJ                                                         | ●            |     | Mod         | ●                              |         |
| YTW          | ***           | Y-SUSTAIL W ADJ                                                          | ●            |     | Mod         | ●                              |         |
| Z            |               |                                                                          |              |     |             |                                |         |
| ZDT          |               |                                                                          |              |     |             |                                |         |
| ZME          |               | Initializing the video EEPROM data                                       |              | ●   |             | ●                              |         |
| ZPR          |               | Initializing the setting data to which no adjustment command is provided | ●            |     |             | ●                              |         |

## 9.3 OUTLINE OF EACH COMMANDS

### 9.3.1 ACQUISITION OF PANEL STATUS ••• [QS1]

Model information and version information are returned.

| Command Format | Effective Operation Modes | Function         | Remarks               |
|----------------|---------------------------|------------------|-----------------------|
| [QS1]          | Every Time                | Output of status | Return data: 105 Byte |

| Data Arrangement |                                              | Data Length | Output Example |
|------------------|----------------------------------------------|-------------|----------------|
| ECO              |                                              | 3 byte      | QS1 (Fixed)    |
| 1                | Display information 1 (Resolution/inch size) | 1 byte      | F              |
| 2                | Display information 2 (Panel Generation)     | 1 byte      | 7: G7          |
| 3                | Display information 3 (Destination)          | 1 byte      | A: USA         |
| 4                | Display information 4 (System Type)          | 1 byte      | *              |
| 5                | Display information 5 (Panel Product Form)   | 1 byte      | B              |
| 6                | MDUcom-Boot                                  | 3 byte      | 01A            |
| 7                | MDUcom-Prg                                   | 8 byte      |                |
| 8                | Seq Prs-Boot                                 | 3 byte      | 01A            |
| 9                | Seq Prs-Prg                                  | 8 byte      |                |
| 10               | SQ-VIDEO                                     | 4 byte      |                |
| 11               | SQ-PC                                        | 4 byte      |                |
| 12               | Panel Type                                   | 1 byte      | P/F            |
| 13               | Reserved (*)                                 | 7 byte      | *****          |
| 14               | , (comma)                                    | 1 byte      |                |
| 15               | MTB information 1 (Generation)               | 1 byte      | 7: G7          |
| 16               | MTB information 2 (Regional model)           | 1 byte      | A: USA         |
| 17               | MTB information 3 (Grade)                    | 1 byte      | H: Elite       |
| 18               | MTB information 4 (System Type)              | 1 byte      | B              |
| 19               | Common version for IF microcomputer          | 4 byte      |                |
| 20               | Common version for Main microcomputer        | 8 byte      |                |
| 21               | Boot version of Main microcomputer           | 4 byte      |                |
| 22               | Common version for Multi-processor           | 8 byte      |                |
| 23               | Boot version of Multi-processor              | 4 byte      |                |
| 24               | Reserved (*)                                 | 24 byte     |                |
| 25               | Check Sum                                    | 2 byte      | FF             |

| 1: Resolution/Inch size |              |
|-------------------------|--------------|
| 3                       | 1024*768/42  |
| 4                       | 1024*768/43  |
| 5                       | 1280*768/50  |
| 6                       | 1365*768/50  |
| 7                       | 1365*768/60  |
| F                       | 1920*1080/50 |

| 2: Panel Generation |     |
|---------------------|-----|
| 6                   | G6  |
| 7                   | G7  |
| 8                   | G8  |
| 9                   | G9  |
| 0                   | G10 |

| 3: Destination |                  |
|----------------|------------------|
| *              | Commonness       |
| A              | US (Reserved)    |
| E              | EU (Reserved)    |
| J              | Japan (Reserved) |

| 4: System Type |            |
|----------------|------------|
| *              | Commonness |
| Z              | Evaluation |

| 5: Panel Product Form |                      |
|-----------------------|----------------------|
| S                     | System model         |
| B                     | All-in-one design TV |
| M                     | Monitor              |
| D                     | Standard module      |
| E                     | Simple module        |

| 12: Panel Type |                |
|----------------|----------------|
| P              | The past       |
| F              | High-effective |

| 15: MTB/MB Generation |     |
|-----------------------|-----|
| 6                     | G6  |
| 7                     | G7  |
| 8                     | G8  |
| 9                     | G9  |
| 0                     | G10 |

| 16: Regional Model |    |
|--------------------|----|
| J                  | JP |
| A                  | US |
| E                  | EU |
| G                  | GE |
| C                  | CH |
| U                  | AU |

| 17: MTB/MB Grade |                              |
|------------------|------------------------------|
| H                | Elite/DXA/Step-upD           |
| T                | Step-upA/XG/TXC/Regular (US) |
| B                | Not used (For Future)        |
| S                | RegularD                     |
| R                | RegularA                     |

| 18: MTB/MB Product Form |                     |
|-------------------------|---------------------|
| S                       | System model        |
| B                       | One body model (SX) |
| M                       | Monitor (FHD)       |

| 19 to 23: MTB/MB-side's information |                                           |
|-------------------------------------|-------------------------------------------|
| IF uCON                             | Common version of IF microcomputer        |
| Main uCON                           | Common version of Main microcomputer      |
| Main uCON-Boot                      | Boot version of Main microcomputer        |
| Multi-prs                           | Common version of Multi-processor program |
| Multi Prs-Boot                      | Boot version of Multi-processor program   |

## 9.3.2 ACQUISITION OF PANEL OPERATION DATA ••• [QS2]

The command QS2 is for acquiring data on the panel's operational information.

| Command Format | Effective Operation Modes | Function                                   | Remarks                                      |
|----------------|---------------------------|--------------------------------------------|----------------------------------------------|
| [QS2]          | All operations            | To acquire data on operations of the panel | Return data: 3 (ECO)+23(DATA)+2(CS)= 28 Byte |

| Data Arrangement |                                      | Data Length | Output Example |
|------------------|--------------------------------------|-------------|----------------|
| ECO              |                                      | 3 byte      | QS2            |
| 1                | Notification of mode shifting to STB | 1 byte      | 1              |
| 2                | Flag for adjustment of the main unit | 1 byte      | 0              |
| 3                | Flag for adjustment-data backup      | 1 byte      | 0              |
| 4                | "1st PD" data                        | 1 byte      | 0              |
| 5                | "2nd PD" data                        | 1 byte      | 0              |
| 6                | Still picture detection              | 1 byte      | 0              |
| 7                | Reserved                             | 2 byte      | **             |
| 8                | Temperature data (TEMP 1)            | 3 byte      | 128 (*1)       |
| 9                | SD main data                         | 1 byte      | 0              |
| 10               | SD sub data                          | 1 byte      | 0              |
| 11               | Operation status induced by SD       | 1 byte      | 0              |
| 12               | Data from the hour meter             | 8 byte      | 00000259 (*2)  |
| 13               | MASK indication                      | 1 byte      | 0              |
| CS               |                                      | 2 byte      | 4A             |

**Note :** (\*1) The unit scale is centigrade. The data is A/D value from the thermal sensor.

(\*2) "00000259" of "Data from the hour meter" means 2 hours 59 minuts.

| 6: Still picture detection |               |
|----------------------------|---------------|
| 0                          | Normal screen |
| 1                          | Still picture |

| 9: SD main data |         |
|-----------------|---------|
| 0               | No SD   |
| 1               | SQ-IC   |
| 2               | MDU-IIC |
| 3               | RST2    |
| 4               | TEMP    |

| 10-1: SD-Sub (SQ-IC) |                     |
|----------------------|---------------------|
| 0                    | No SD-Sub data      |
| 1                    | Communication error |
| 2                    | Drive stop          |
| 3                    | BUSY                |
| 6                    | Version mismatching |

| 10-2: SD-Sub (IIC) |                |
|--------------------|----------------|
| 0                  | No SD-Sub data |
| 1                  | EEPROM         |
| 2                  | BACKUP         |
| 3                  | DAC            |

| 10-3: SD-Sub (TEMP) |                |
|---------------------|----------------|
| 0                   | No SD-Sub data |
| 1                   | TEMP1          |
| 2                   | Reserved       |

| 11: Operation status induced by SD |                           |
|------------------------------------|---------------------------|
| 0                                  | Normal                    |
| 1                                  | Relay-off completed       |
| 2                                  | During warning indication |

| 13: MASK indication |          |
|---------------------|----------|
| 0                   | MASK-OFF |
| 1                   | MASK-ON  |

| 1: Notification of mode shifting to Standby |                                 |
|---------------------------------------------|---------------------------------|
| 0                                           | Entering Standby mode failed    |
| 1                                           | Entering Standby mode succeeded |

| 2: Adjustment of the main unit |                          |
|--------------------------------|--------------------------|
| 0                              | Adjustment completed     |
| 1                              | Adjustment not completed |

| 3: Adjustment-data backup |                   |
|---------------------------|-------------------|
| 0                         | With backup data  |
| 1                         | No data (default) |

| 4, 5: PD data |            |
|---------------|------------|
| 0             | No PD data |
| 1             | Not used   |
| 2             | POWER      |
| 3             | SCAN       |
| 4             | SCN-5V     |
| 5             | Y-DRV      |
| 6             | Y-DCDC     |
| 7             | Y-SUS      |
| 8             | ADRS       |
| 9             | X-DRV      |
| A             | X-DCDC     |
| B             | X-SUS      |
| C             | Not used   |
| D             | Not used   |
| E             | Not used   |
| F             | UNKNOWN    |

### 9.3.3 ACQUISITION OF OTHER DATA ON THE PANEL ••• [QIP]

The command QIP is for acquiring data on operational information of the panel.

| Command Format | Effective Operation Modes | Function                                   | Remarks                                      |
|----------------|---------------------------|--------------------------------------------|----------------------------------------------|
| [QIP]          | All operations            | To acquire data on operations of the panel | Return data: 3 (ECO)+58(DATA)+2(CS)= 63 Byte |

| Data Arrangement |                                           | Data Length | Output Example |
|------------------|-------------------------------------------|-------------|----------------|
| ECO              |                                           | 3 byte      | QIP            |
| 1                | SERIAL                                    | 15 byte     | -----          |
| 2                | HOURLY METER                              | 8 byte      | 00000000       |
| 3                | TOTAL HOURLY METER                        | 8 byte      | 00000000       |
| 4                | PON COUNTER                               | 8 byte      | 00000000       |
| 5                | TEMP1 acquisition (Temperature value)     | 5 byte      | +23.5 (*1)     |
| 6                | TEMP0 acquisition (Temperature value)     | 5 byte      | +28.7 (*1)     |
| 7                | MAX-TEMP1 acquisition (Temperature value) | 5 byte      | +78.3 (*1)     |
| 8                | Reserved                                  | 4 byte      | ****           |
| CS               |                                           | 2 byte      | 94             |

Note  
(\*1) : Centigrade scale

### 9.3.4 ACQUISITION OF PANEL ADJUSTMENT DATA (COMMON DATA) ••• [QAJ]

The command QAJ is for acquiring the panel's factory-preset data.

| Command Format | Effective Operation Modes | Function                                   | Remarks                                      |
|----------------|---------------------------|--------------------------------------------|----------------------------------------------|
| [QAJ]          | All operations            | To acquire data on operations of the panel | Return data: 3 (ECO)+41(DATA)+2(CS)= 46 Byte |

| Data Arrangement |                          | Data Length | Output Example |
|------------------|--------------------------|-------------|----------------|
| ECO              |                          | 3 byte      | QAJ            |
| 1                | V-SUS adjustment value   | 3 byte      | 128            |
| 2                | V-OFT adjustment value   | 3 byte      | 128            |
| 3                | V-RST-P adjustment value | 3 byte      | 128            |
| 4                | Reserved                 | 3 byte      | ***            |
| 5                | XSB adjustment value     | 3 byte      | 128            |
| 6                | YSB adjustment value     | 3 byte      | 128            |
| 7                | YTG adjustment value     | 3 byte      | 128            |
| 8                | YTW adjustment value     | 3 byte      | 128            |
| 9                | RSW adjustment value     | 3 byte      | 128            |
| 10               | YTB adjustment value     | 3 byte      | 128            |
| 11               | RYW adjustment value     | 3 byte      | 128            |
| 12               | R-REVICE setting value   | 1 byte      | 0              |
| 13               | G-REVICE setting value   | 1 byte      | 0              |
| 14               | B-REVICE setting value   | 1 byte      | 0              |
| CS               |                          | 2 byte      | B7             |

• For each REVISE setting value, the level set for RRL, RGL, or RBL is transmitted as one character.

### 9.3.5 ACQUISITION OF ABL/WB ADJUSTMENT DATA ••• [QPW]

The command QPW is for acquiring the factory-preset data about the video of the panel.

| Command Format | Effective Operation Modes | Function                                   | Remarks                                      |
|----------------|---------------------------|--------------------------------------------|----------------------------------------------|
| [QPW]          | All operations            | To acquire data on operations of the panel | Return data: 3 (ECO)+35(DATA)+2(CS)= 40 Byte |

| Data Arrangement                       | Data Length | Output Example | 1: Drive sequence        | 12, 15: Setting for Items 12 and 15                   |
|----------------------------------------|-------------|----------------|--------------------------|-------------------------------------------------------|
| ECO                                    | 3 byte      | QPW            | 48V Video 48 Hz          | 0 OFF                                                 |
| 1 Drive sequence                       | 3 byte      | 60V            | 50V Video 50 Hz          | 1 ON                                                  |
| 2 Standard/nonstandard                 | 1 byte      | S              | 60V Video 60 Hz          |                                                       |
| 3 Type of ABL/WB tables                | 2 byte      | T2             | 72V Video 72 Hz          | 13: Peripheral luminance correction                   |
| 4 ABL adjustment value                 | 3 byte      | 128            | 75V Video 75 Hz          | 0 OFF                                                 |
| 5 R-HIGH adjustment value              | 3 byte      | 256            | 60P PC 60 Hz             | 2 ON (interlocked with APL)                           |
| 6 G-HIGH adjustment value              | 3 byte      | 256            | 70P PC 70 Hz             |                                                       |
| 7 B-HIGH adjustment value              | 3 byte      | 256            |                          | 16: Transition of brightness by protective operations |
| 8 R-LOW adjustment value               | 3 byte      | 512            | 2: Standard/nonstandard  | 0 Upper limit state for brightness                    |
| 9 G-LOW adjustment value               | 3 byte      | 512            | S Standard               | 1 Brightness being reduced                            |
| 10 B-LOW adjustment value              | 3 byte      | 512            | N Nonstandard            | 2 Lower limit state for brightness                    |
| 11 Gamma setting                       | 1 byte      | A              |                          | 3 Brightness being increased                          |
| 12 Streaking correction                | 1 byte      | 1              | 3: Type of ABL/WB tables |                                                       |
| 13 Peripheral luminance correction     | 1 byte      | 0              | Tn n: 1 to 4             |                                                       |
| 14 Reserved                            | 1 byte      | *              | 11: Gamma setting        |                                                       |
| 15 WB interlocked with APL             | 1 byte      | 0              | n 0 to F                 |                                                       |
| 16 Transition of protective operations | 1 byte      | 0              |                          |                                                       |
| 17 Reserved                            | 2 byte      | **             |                          |                                                       |
| CS                                     | 2 byte      | 37             |                          |                                                       |

### 9.3.6 ACQUISITION OF PULSE METER VALUE ••• [QPM]

The command QPM is for acquiring the accumulated number of pulses of the panel.

| Command Format | Effective Operation Modes | Function                                   | Remarks                                      |
|----------------|---------------------------|--------------------------------------------|----------------------------------------------|
| [QPM]          | All operations            | To acquire data on operations of the panel | Return data: 3 (ECO)+40(DATA)+2(CS)= 45 Byte |

| Data Arrangement  | Data Length | Output Example |
|-------------------|-------------|----------------|
| ECO               | 3 byte      | QPM            |
| 1 Pulse meter B 1 | 8 byte      | 00000000       |
| 2 Pulse meter B 2 | 8 byte      | 00000000       |
| 3 Pulse meter B 3 | 8 byte      | 00000000       |
| 4 Pulse meter B 4 | 8 byte      | 00000000       |
| 5 Pulse meter B 5 | 8 byte      | 00000000       |
| CS                | 2 byte      | E7             |

### 9.3.7 ACQUISITION OF PD LOGS ••• [QPD]

The command QPD is for acquiring data from the 8 latest power-down (PD) logs.

| Command Format | Effective Operation Modes | Function                               | Remarks                                      |
|----------------|---------------------------|----------------------------------------|----------------------------------------------|
| [QPD]          | All operations            | To acquire data on the power-down logs | Return data: 3 (ECO)+80(DATA)+2(CS)= 85 Byte |

| Data Arrangement |                                                    | Data Length | Output Example |
|------------------|----------------------------------------------------|-------------|----------------|
| ECO              |                                                    | 3 byte      | QPD            |
| 1                | Latest "1st PD" data                               | 1 byte      | A              |
| 2                | Latest "2nd PD" data                               | 1 byte      | 2              |
| 3                | Data from the hour meter for the latest PD         | 8 byte      | 00010020       |
| 4                | Second latest "1st PD" data                        | 1 byte      | E              |
| 5                | Second latest "2nd PD" data                        | 1 byte      | 9              |
| 6                | Data from the hour meter for the second latest PD  | 8 byte      | 00008523       |
| 7                | Third latest "1st PD" data                         | 1 byte      | 4              |
| 8                | Third latest "2nd PD" data                         | 1 byte      | 3              |
| 9                | Data from the hour meter for the third latest PD   | 8 byte      | 00004335       |
| 10               | Fourth latest "1st PD" data                        | 1 byte      | 2              |
| 11               | Fourth latest "2nd PD" data                        | 1 byte      | 0              |
| 12               | Data from the hour meter for the fourth latest PD  | 8 byte      | 00000945       |
| 13               | Fifth latest "1st PD" data                         | 1 byte      | 4              |
| 14               | Fifth latest "2nd PD" data                         | 1 byte      | 0              |
| 15               | Data from the hour meter for the fifth latest PD   | 8 byte      | 00000715       |
| 16               | Sixth latest "1st PD" data                         | 1 byte      | A              |
| 17               | Sixth latest "2nd PD" data                         | 1 byte      | 2              |
| 18               | Data from the hour meter for the sixth latest PD   | 8 byte      | 00000552       |
| 19               | Seventh latest "1st PD" data                       | 1 byte      | A              |
| 20               | Seventh latest "2nd PD" data                       | 1 byte      | 0              |
| 21               | Data from the hour meter for the seventh latest PD | 8 byte      | 00000213       |
| 22               | Eighth latest "1st PD" data                        | 1 byte      | D              |
| 23               | Eighth latest "2nd PD" data                        | 1 byte      | 0              |
| 24               | Data from the hour meter for the eighth latest PD  | 8 byte      | 000001A7       |
| CS               |                                                    | 2 byte      | 27             |

| 1, 2, 4, 5: PD data |          |
|---------------------|----------|
| 0                   | No PD    |
| 1                   | Not used |
| 2                   | P-POWER  |
| 3                   | SCAN     |
| 4                   | SCN-5V   |
| 5                   | Y-DRIVE  |
| 6                   | Y-DCDC   |
| 7                   | Y-SUS    |
| 8                   | Address  |
| 9                   | X-DRIVE  |
| A                   | X-DCDC   |
| B                   | X-SUS    |
| C                   | Not used |
| D                   | Not used |
| E                   | Not used |
| F                   | UNKNOWN  |

### 9.3.8 ACQUISITION OF SD LOGS ••• [QSD]

The command QSD is for acquiring the data from the 8 latest shutdown (SD) logs.

| Command Format | Effective Operation Modes | Function                             | Remarks                                      |
|----------------|---------------------------|--------------------------------------|----------------------------------------------|
| [QSD]          | All operations            | To acquire data on the shutdown logs | Return data: 3 (ECO)+80(DATA)+2(CS)= 85 Byte |

| Data Arrangement |                                                    | Data Length | Output Example |
|------------------|----------------------------------------------------|-------------|----------------|
| ECO              |                                                    | 3 byte      | QSD            |
| 1                | Latest SD data                                     | 1 byte      | 1              |
| 2                | Latest SD subcategory data                         | 1 byte      | 0              |
| 3                | Data from the hour meter for the latest SD         | 8 byte      | 00752013       |
| 4                | Second latest SD data                              | 1 byte      | 5              |
| 5                | Second latest SD subcategory data                  | 1 byte      | 0              |
| 6                | Data from the hour meter for the second latest SD  | 8 byte      | 00495204       |
| 7                | Third latest SD data                               | 1 byte      | 2              |
| 8                | Third latest SD subcategory data                   | 1 byte      | 3              |
| 9                | Data from the hour meter for the third latest SD   | 8 byte      | 00100355       |
| 10               | Fourth latest SD data                              | 1 byte      | 2              |
| 11               | Fourth latest SD subcategory data                  | 1 byte      | 5              |
| 12               | Data from the hour meter for the fourth latest SD  | 8 byte      | 00075620       |
| 13               | Fifth latest SD data                               | 1 byte      | 1              |
| 14               | Fifth latest SD subcategory data                   | 1 byte      | 0              |
| 15               | Data from the hour meter for the fifth latest SD   | 8 byte      | 00000852       |
| 16               | Sixth latest SD data                               | 1 byte      | 2              |
| 17               | Sixth latest SD subcategory data                   | 1 byte      | 5              |
| 18               | Data from the hour meter for the sixth latest SD   | 8 byte      | 000000451      |
| 19               | Seventh latest SD data                             | 1 byte      | 0              |
| 20               | Seventh latest SD subcategory data                 | 1 byte      | 0              |
| 21               | Data from the hour meter for the seventh latest SD | 8 byte      | 00000000       |
| 22               | Eighth latest SD data                              | 1 byte      | 0              |
| 23               | Eighth latest SD subcategory data                  | 1 byte      | 0              |
| 24               | Data from the hour meter for the eighth latest SD  | 8 byte      | 00000000       |
| CS               |                                                    | 2 Byte      | 7D             |

| ● SD data |         |
|-----------|---------|
| 0         | No SD   |
| 1         | SQ-IC   |
| 2         | MDU-IIC |
| 3         | RST2    |
| 4         | TEMP    |

| ● SD subcategory (SQ-IC) |                     |
|--------------------------|---------------------|
| 0                        | No SD-Sub data      |
| 1                        | Communication error |
| 2                        | Drive stop          |
| 3                        | BUSY                |
| 6                        | Version mismatching |

| ● SD subcategory (MDU-IIC) |                |
|----------------------------|----------------|
| 0                          | No SD-Sub data |
| 1                          | EEPROM         |
| 2                          | BACKUP         |
| 3                          | DAC            |

| ● SD subcategory (TEMP) |                |
|-------------------------|----------------|
| 0                       | No SD-Sub data |
| 1                       | TEMP1          |
| 2                       | Reserved       |

### 9.3.9 QS6

Induce it peculiar, individual information is acquired.

| Command Format | Effective Operation Modes | Function         | Remarks |
|----------------|---------------------------|------------------|---------|
| [QS6]          | Every time                | Output of status |         |

| Order | Part | Data Arrangement      | Data Length | Remarks |
|-------|------|-----------------------|-------------|---------|
| 00    | –    | Received Command name | 3 byte      | QS6     |
| 01    |      | DTB version           | 4 byte      |         |
| 02    |      | Reserved              | 8 byte      |         |
| 03    |      | TELE-TEXT version     | 60 byte     |         |
| 04    |      | USER PASSWORD         | 4 byte      |         |
| 05    | –    | Check Sum             | 2 byte      |         |

### 9.3.10 QMT

Temperature information (TEMP2) / FAN rotation state information on the MTB side is returned.

| Command Format | Effective Operation Modes | Function         | Remarks                                    |
|----------------|---------------------------|------------------|--------------------------------------------|
| [QMT]          | Every time                | Output of status | MTB-side's temperature/FAN rotating status |

| Order | Part | Data Arrangement             | Data Length | Remarks                                       |
|-------|------|------------------------------|-------------|-----------------------------------------------|
| 0     | –    | Received Command name        | 3 byte      | QMT                                           |
| 01    | MTB  | MTB-side Temperature (TEMP2) | 3 byte      |                                               |
| 02    |      | MTB-side FAN rotating speed  | 1 byte      | 0: STOP 1: LOW, 5: HIGH, 3: MIDDLE (FHD only) |

## 9.3.11 QNG

MTB/MB side's shutdown information is acquired.

| Command Format | Effective Operation Modes | Function         | Remarks |
|----------------|---------------------------|------------------|---------|
| [QNG]          | Every time                | Output of status |         |

| Order | Part | Data Arrangement                       | Data Length | Remarks |
|-------|------|----------------------------------------|-------------|---------|
| 00    | —    | Received Command name                  | 3 byte      | QNG     |
| 01    | MTB  | 1st latest NG No.                      | 1 byte      |         |
| 02    |      | Subcategory No. for the 1st latest NG. | 1 byte      |         |
| 03    |      | MTB hour meter for the 1st latest NG.  | 7 byte      |         |
| 04    |      | Temperature for the 1st latest NG.     | 3 byte      |         |
| 05    |      | 2nd latest NG No.                      | 1 byte      |         |
| 06    |      | Subcategory No. for the 2nd latest NG. | 1 byte      |         |
| 07    |      | MTB hour meter for the 2nd latest NG.  | 7 byte      |         |
| 08    |      | Temperature for the 2nd latest NG.     | 3 byte      |         |
| 09    |      | 3rd latest NG No.                      | 1 byte      |         |
| 10    |      | Subcategory No. for the 3rd latest NG. | 1 byte      |         |
| 11    |      | MTB hour meter for the 3rd latest NG.  | 7 byte      |         |
| 12    |      | Temperature for the 3rd latest NG.     | 3 byte      |         |
| :     |      | :                                      | :           |         |
| 29    |      | 8th latest NG No.                      | 1 byte      |         |
| 30    |      | Subcategory No. for the 8th latest NG. | 1 byte      |         |
| 31    |      | MTB hour meter for the 8th latest NG.  | 7 byte      |         |
| 32    |      | Temperature for the 8th latest NG.     | 3 byte      |         |
| 33    | —    | Check Sum                              | 2 byte      |         |

### < SD Information No. >

| Value | Shutdown Factor                                                   | Remarks (Operation)                                         |
|-------|-------------------------------------------------------------------|-------------------------------------------------------------|
| 0     | Normal                                                            |                                                             |
| 1     | Failure of communication to Module microcomputer                  | MODULE (immediately Shutdown)                               |
| 2     | 3-wire serial communication of Main microcomputer                 | Go to No. 1 Subcategory Information                         |
| 3     | IIC communication failure of Main microcomputer and Unknown error | Go to No. 2 Subcategory Information                         |
| 4     | Communication failure of Main microcomputer                       | MAIN (immediately Power Supply OFF)                         |
| 5     | FAN stopped                                                       | FAN (immediately Power Supply OFF)                          |
| 6     | Abnormally high temperature at MTB                                | TEMP2 (After 30 seconds warning, turn the power supply off) |
| 7     | Failure of Digital Tuner                                          | Go to No. 3 Subcategory Information                         |
| 8     | Failure of Power Supply                                           | Go to No. 4 Subcategory Information                         |
| B     | Speaker short-circuit                                             |                                                             |

### < No. 1 Subcategory Information on "Failure in 3-wire serial communication of Main microcomputer" >

| Value | Shutdown Factor                        | Remarks (Operation)                   |
|-------|----------------------------------------|---------------------------------------|
| 0     | Non subcategory                        |                                       |
| 1     | IF microcomputer communication failure | IF (immediately Power Supply OFF)     |
| 2     | MANTA communication failure (MULTI)    | MULTI1 (immediately Power Supply OFF) |
| 4     | MANTA communication                    | I/P                                   |
| 5     | MANTA communication                    | D-SEL                                 |

< No. 2 Subcategory Information on "Failure in IIC communication of Main microcomputer" >

| Value | Shutdown Factor             | Remarks (Operation)                                                     |
|-------|-----------------------------|-------------------------------------------------------------------------|
| 0     | Non subcategory             |                                                                         |
| 1     | Analog tuner1 (Front end 1) | FE1 (immediately Power Supply OFF)                                      |
| 3     | MPX                         | MPX (After 3 times reset action, turn Power Supply off (except for us)) |
| 4     | AV switch                   | AV-SW (immediately Power Supply OFF)                                    |
| 5     | RGB switch                  | RGB-SW (immediately Power Supply OFF)                                   |
| 8     | Main VDEC                   | M-VDEC (immediately Power Supply OFF)                                   |
| 9     | Sub VDEC                    | S-VDEC (immediately Power Supply OFF)                                   |
| A     | AD/PLL                      | ADC (immediately Power Supply OFF)                                      |
| B     | HDMI                        | HDMI (immediately Power Supply OFF)                                     |
| E     | M2 communication            | TX-COM (After 3 times reset action, turn Power Supply off)              |
| F     | M2 busy                     | TX-BSY (After 3 times reset action, turn Power Supply off)              |
| G     | 64k EEPROM                  | MA-EEP (immediately Power Supply OFF)                                   |
| H     | AUDIO IC                    |                                                                         |

< No. 3 Subcategory Information on "Digital tuner" >

| Value | Shutdown Factor           | Remarks (Operation)                                               |
|-------|---------------------------|-------------------------------------------------------------------|
| 0     | Non subcategory           |                                                                   |
| 1     | DTV starting failure      | PS/RST (The history is left, and intercepts it the communication) |
| 2     | DTV communication failure | RETRY (The history is left, and intercepts it the communication)  |

< No. 4 Subcategory Information on "POWER" >

| Value | Shutdown Factor          | Remarks (Operation)                   |
|-------|--------------------------|---------------------------------------|
| 1     | DCDC Converter heden     | M-DCDC (immediately Power Supply OFF) |
| 2     | Relay Power supply heden | RELAY (immediately Power Supply OFF)  |

### 9.3.12 DRV

Drive ON/OFF: ON/OFF control for only the large-power system

| Command Format | Effective Operation Modes | Function  | Remarks                                                                                   |
|----------------|---------------------------|-----------|-------------------------------------------------------------------------------------------|
| [DRV+S00]      | Every time                | DRIVE OFF | At standby mode, when 10 seconds passed after issuing [DRV+S00], command becomes invalid. |
| [DRV+S01]      | Every time                | DRIVE ON  |                                                                                           |

### 9.3.13 OTHER COMMANDS

#### • SETTING FOR FACTORY MODE PERMISSION / PROHIBITION ○ ○ ○ [FAY / FAN]

A The commands FAY/FAN are for prohibiting/permitting panel-adjustment commands.

| Command Format | Operation                                   |                            | Remarks                                       |
|----------------|---------------------------------------------|----------------------------|-----------------------------------------------|
|                | Effective Operation Modes                   | Control                    |                                               |
| [FAY]          | Normal operation mode while the power is on | Adjust command is valid.   | Mask indications will be forcibly turned off. |
| [FAN]          | During FAY                                  | Adjust command is invalid. |                                               |

B

#### • BACKUP FUNCTION FOR ADJUSTMENT VALUE FOR THE MAIN UNIT ○ ○ ○ [FAJ / UAJ / CBU / BCP]

When the DIGITAL Assy is to be replaced, adjustment values can be copied from the backup EEPROM to the EEPROM of the Assy for service.

C

| Command Format | Operation                 |                                                                                                  |                                                                | Remarks                        |
|----------------|---------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------------------|
|                | Effective Operation Modes | Control                                                                                          |                                                                |                                |
| [FAJ]          | During FAY                | To make the flag setting that indicating that adjustment of the panel unit has been completed    | Writing 00 to the 4 k byte ROM and copying to the 2 k byte ROM | This takes at least 350 ms.    |
| [UAJ]          |                           | To make the flag setting that indicating that adjustment of the main unit has not been completed | Writing F0 to the 4 k byte ROM                                 |                                |
| [CBU]          |                           | To make the flag setting that indicating that backup data have not been copied                   | Writing F0 to the 2 k byte ROM                                 | The backup ROM is initialized. |
| [BCP]          |                           | To copy Digital backup data to EEPROM                                                            | Copying backup data                                            |                                |

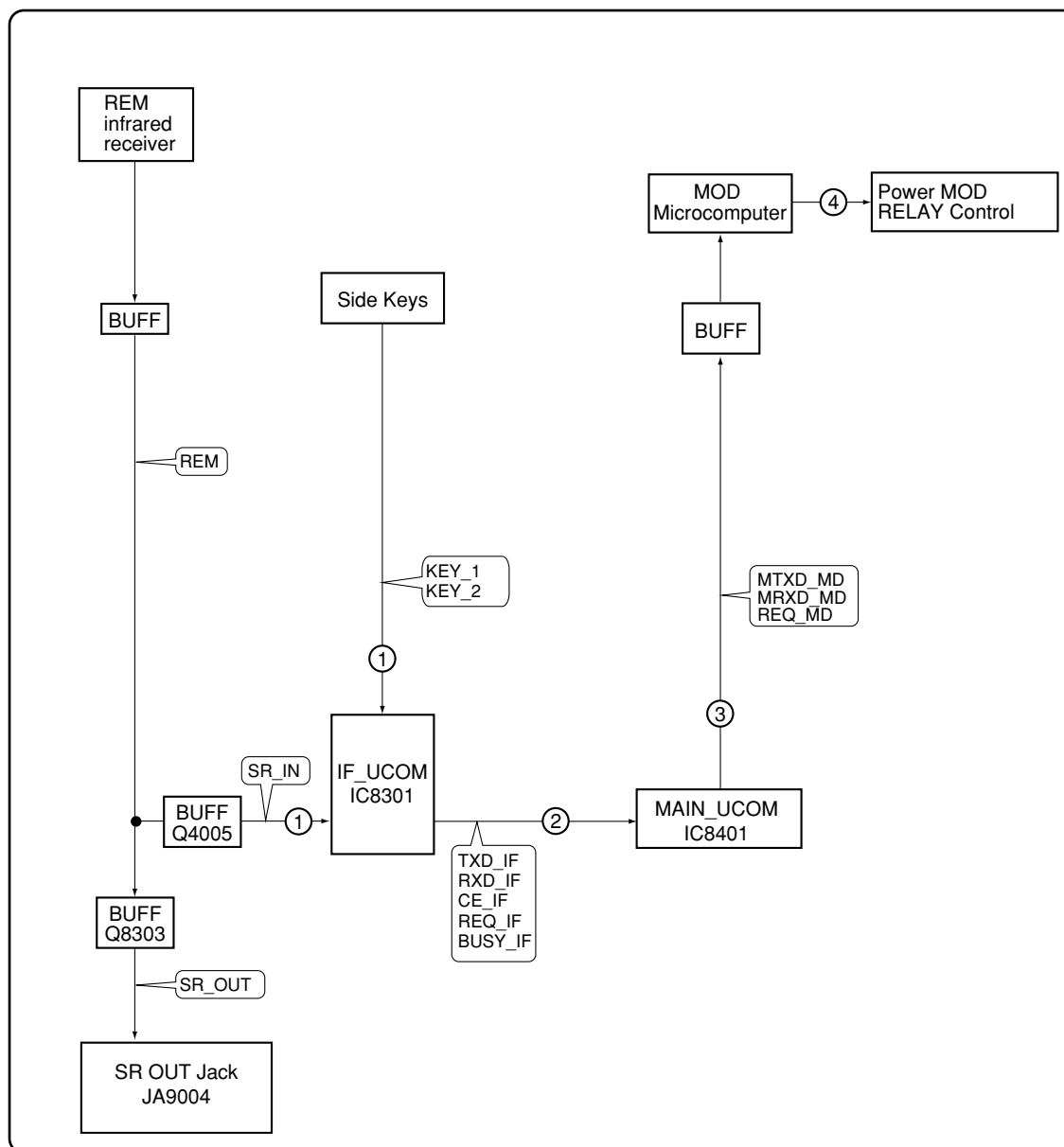
D

E

F

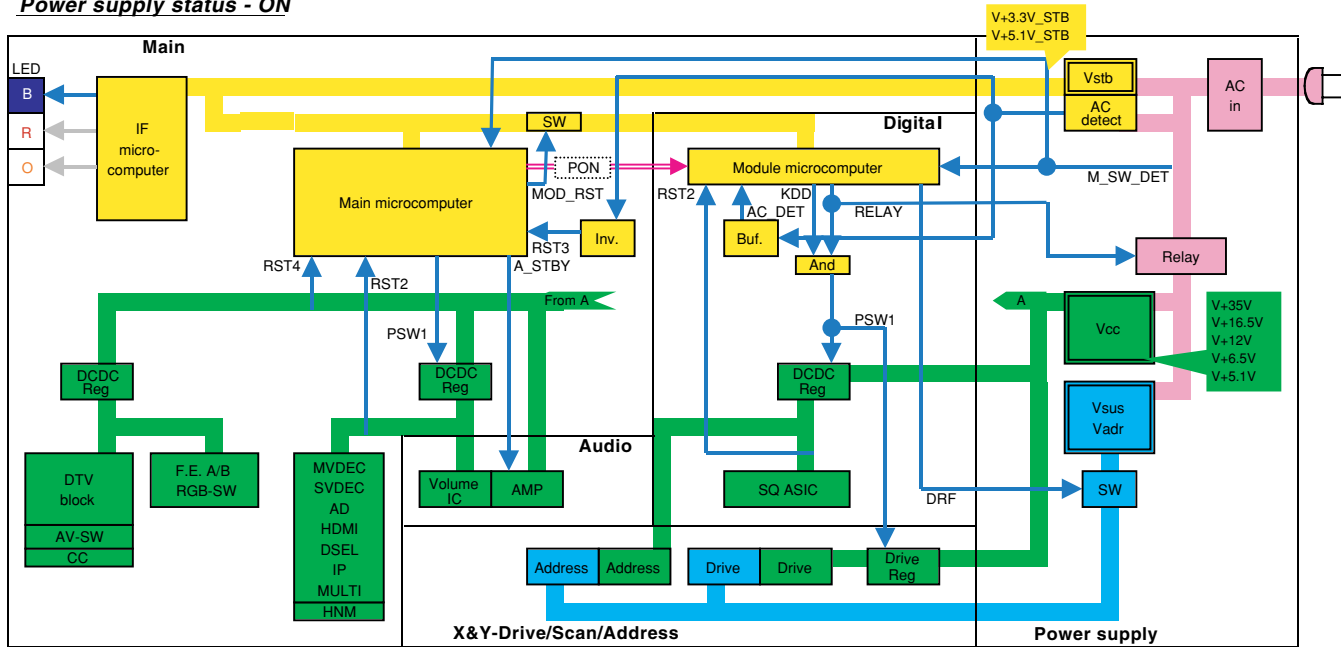
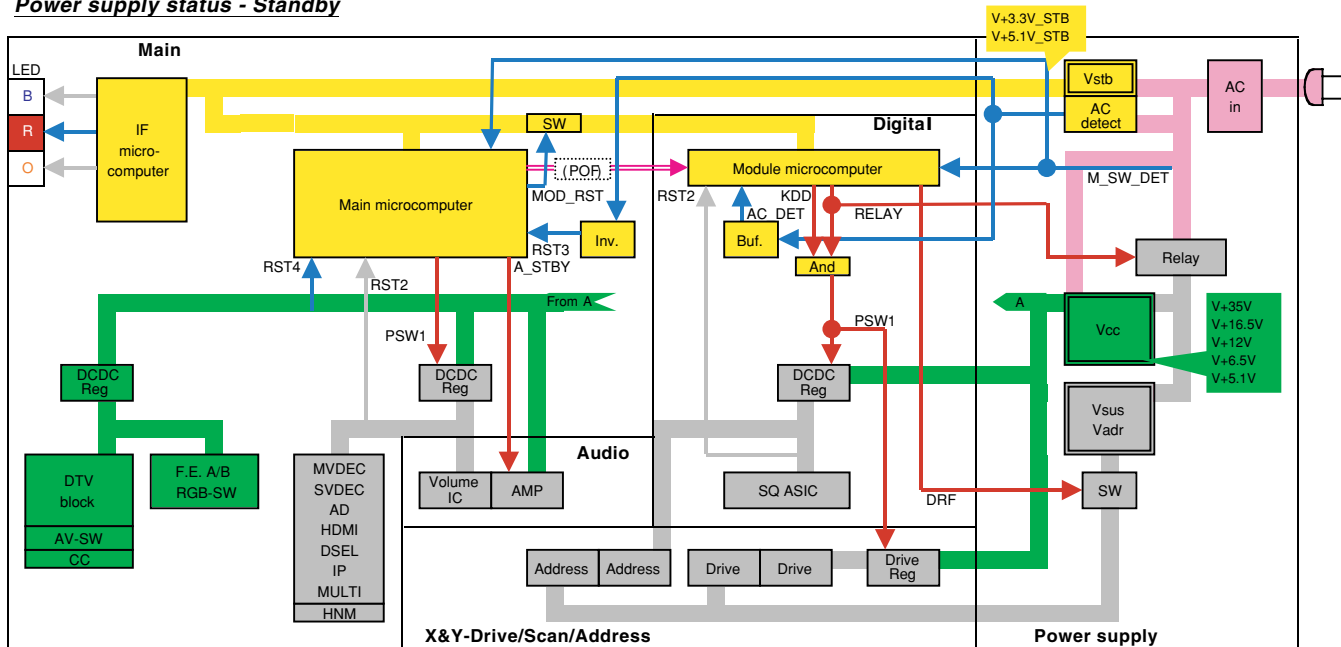
# 10. GENERAL INFORMATION

## 10.1 POWER ON SEQUENCE



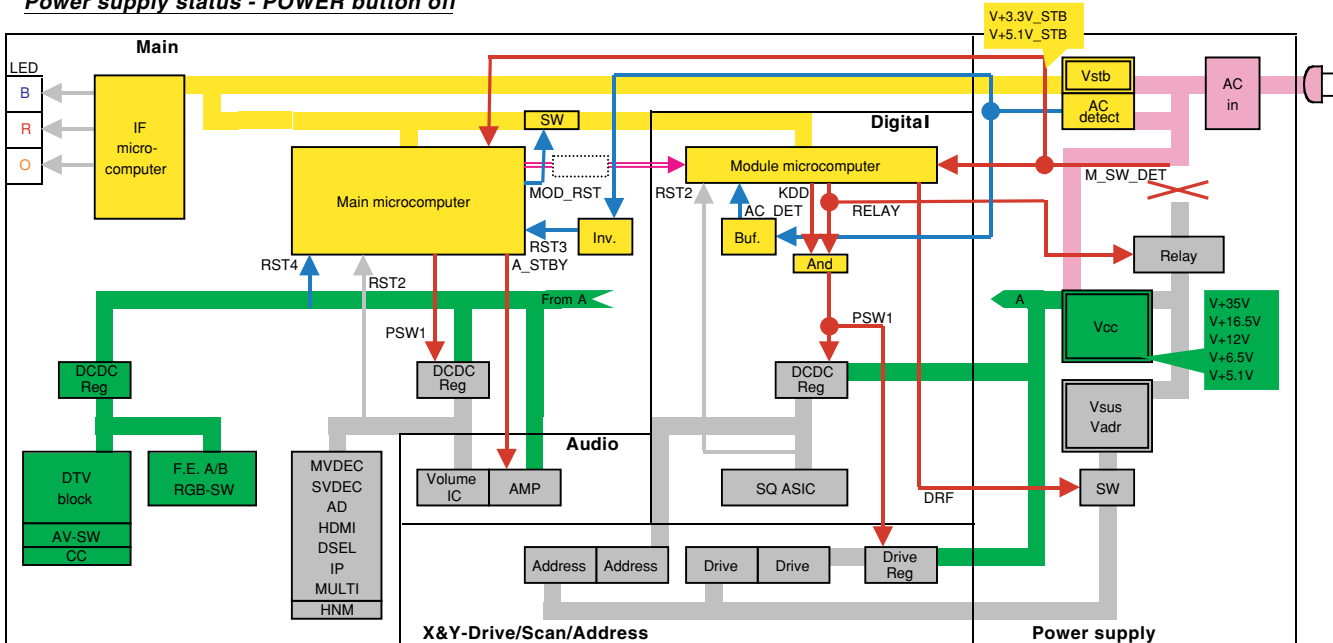
- ① : The remote control (or KEY) signal is input to the IF microcomputer.
- ② : The IF microcomputer sends the operation data to the main microcomputer.
- ③ : The main microcomputer issues a startup command to the MOD microcomputer.
- ④ : The MOD microcomputer controls the relay of the power MOD of the PDP to startup the power of the PDP.

A

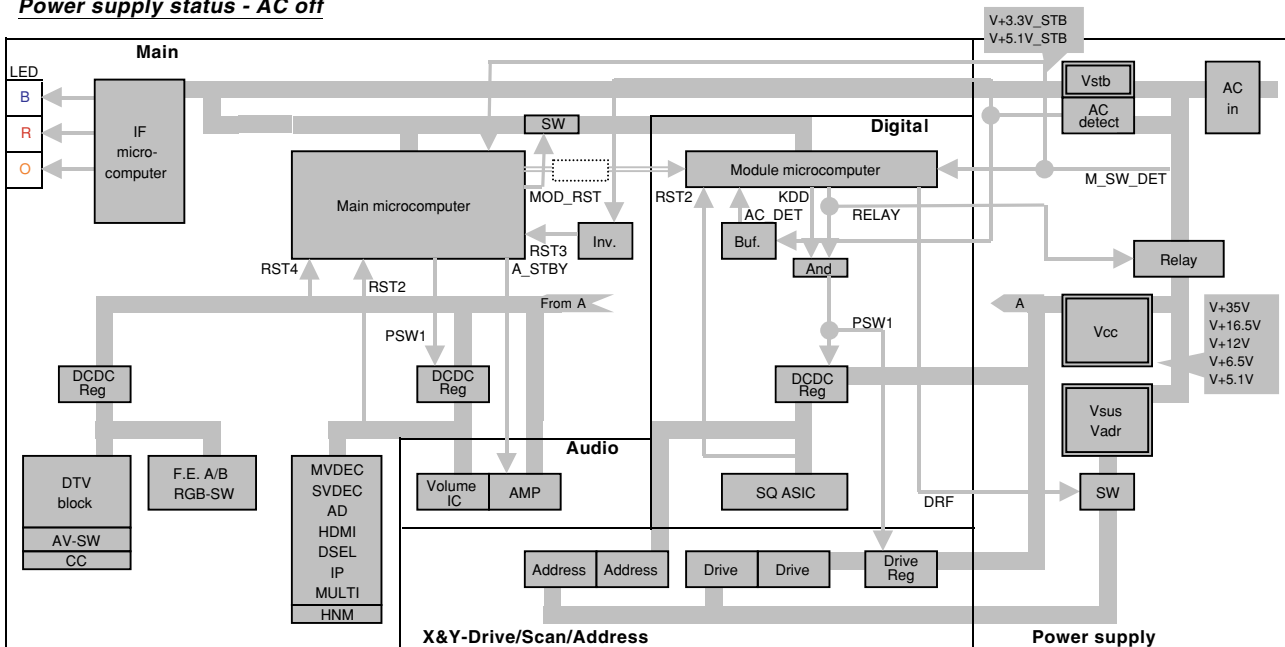
**Power supply status - ON****Power supply status - Standby**

F

### Power supply status - POWER button off

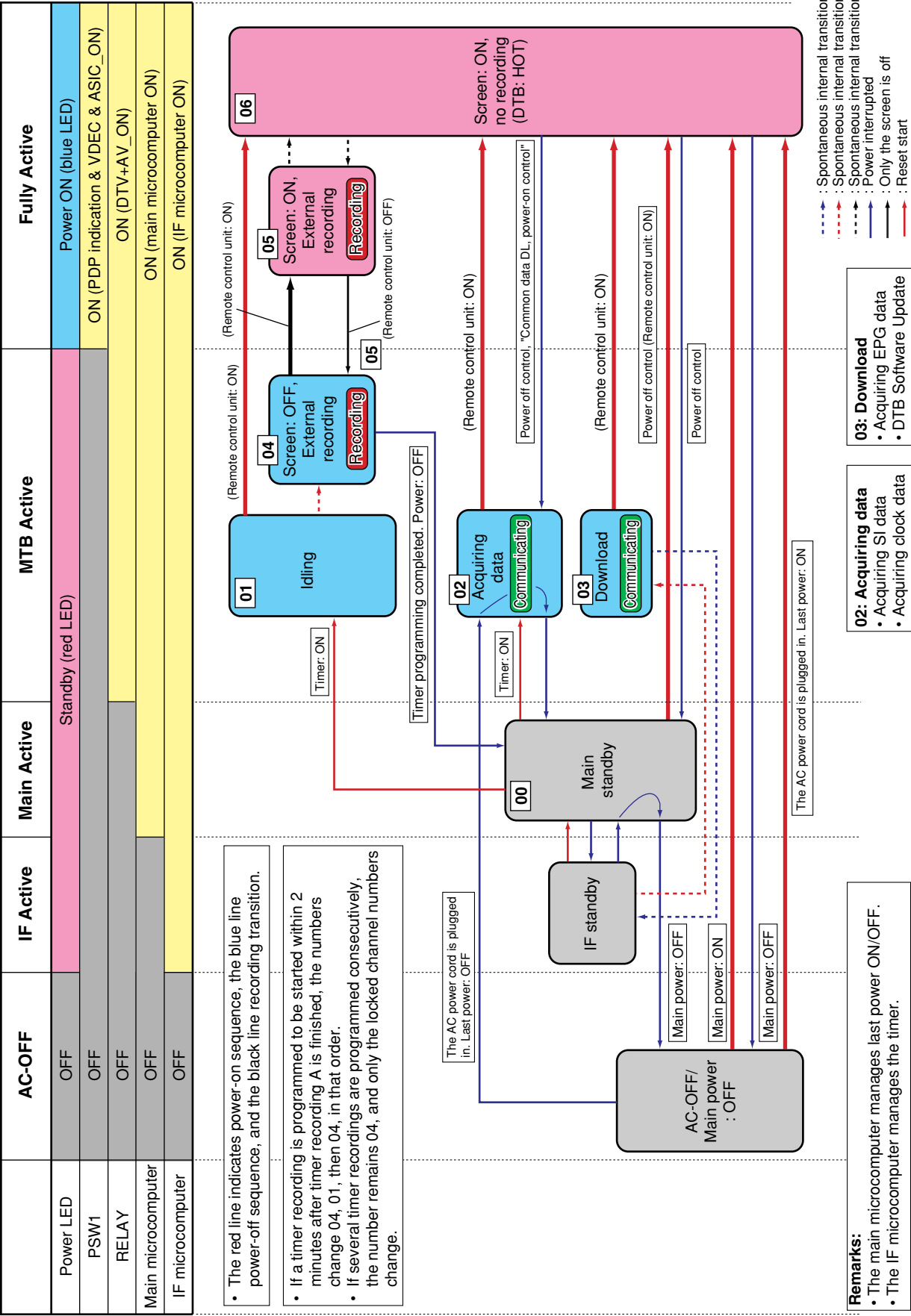


### Power supply status - AC off



10.2 POWER SUPPLY TRANSITION STATUS

A B C D E F



## 10.3 POWER ON/OFF FUNCTION FOR THE LARGE-SIGNAL SYSTEM

### Function:

It is an operational mode where the digital signal processing performs circuit operation but the power is not supplied to the panel driving system (large signal system) in order to avoid a power down.

### Application:

1. When it is necessary to check whether the signal output is correctly reaching the drive system in a repairing activity etc.
2. In the case of a PD, to determine whether the problem is with the large signal system power supply or with the small signal system power supply.

### Method:

1. Make shorting between the specified location (refer to the illustration below) of the PCB surface of the DIGITAL ASSY and the nearby pattern.
2. Execute [DRV S00] by RS232C command. ([DRV S01] for release)

### Supplemental explanation:

- When the large signal system power supply is in OFF state, there will be no PD, except PS\_PD, as the PD signal has been muted.
- If the clip is removed in the OFF state of the large signal system power supply, PD will take place at the instance of clip removal. Therefore, be sure to remove the clip after turning the power OFF.
- Under RS-232C command control, [DRVS01] (release) is possible during power ON. However, there is a possibility of damaging the set. Therefore, make this operation only after turning the power OFF.
- Command [DRVS00/S01] is effective even during standby. When the main power is turned OFF, however, [DRVS01] (release) will be effective.



10.4 LED INFORMATION

LED Pattern



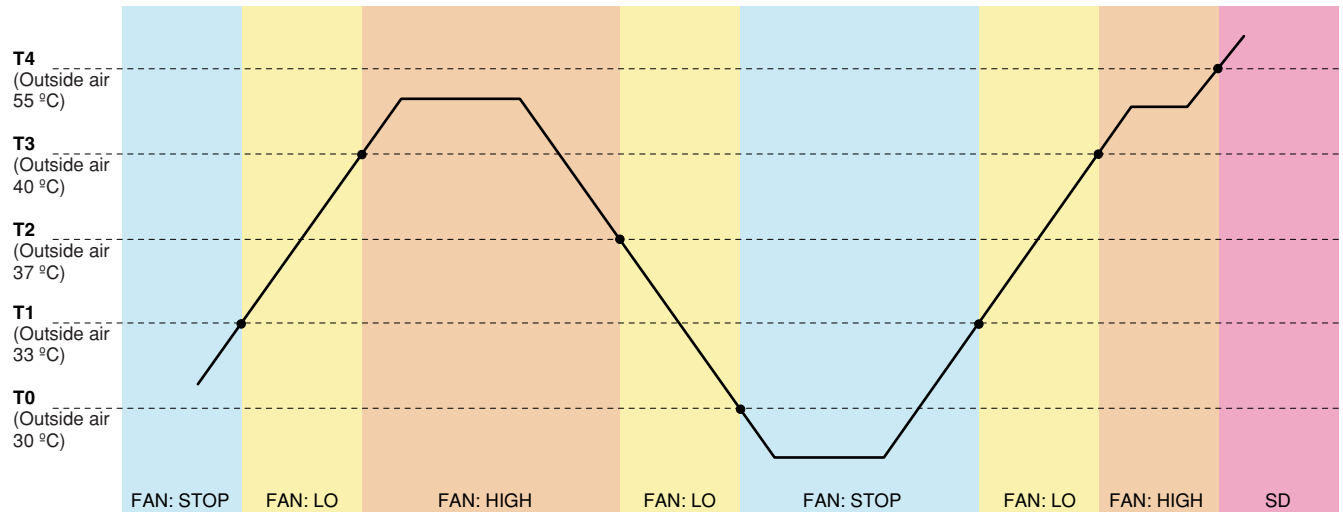
| State                                                                                                                 | LED Pattern |                     |                      |                                  |
|-----------------------------------------------------------------------------------------------------------------------|-------------|---------------------|----------------------|----------------------------------|
| AC OFF or<br>Main power switch OFF                                                                                    | Blue        |                     |                      |                                  |
|                                                                                                                       | Red         |                     |                      |                                  |
|                                                                                                                       | Orange      |                     |                      |                                  |
| Standby power<br>management                                                                                           | Blue        |                     |                      |                                  |
|                                                                                                                       | Red         |                     |                      |                                  |
|                                                                                                                       | Orange      |                     |                      |                                  |
| Power ON                                                                                                              | Blue        |                     |                      |                                  |
|                                                                                                                       | Red         |                     |                      |                                  |
|                                                                                                                       | Orange      |                     |                      |                                  |
| Power-down                                                                                                            | Blue        | Once 500 msec Twice | n times 2.5 sec Once |                                  |
|                                                                                                                       | Red         |                     |                      |                                  |
|                                                                                                                       | Orange      |                     |                      |                                  |
| Shutdown                                                                                                              | Blue        | Once 500 msec Twice | n times 2.5 sec Once |                                  |
|                                                                                                                       | Red         |                     |                      |                                  |
|                                                                                                                       | Orange      |                     |                      |                                  |
| No digital adjustment data<br>copied for backup                                                                       | Blue        | 200 msec            |                      |                                  |
|                                                                                                                       | Red         |                     |                      |                                  |
|                                                                                                                       | Orange      |                     |                      |                                  |
| In the process of rewriting<br>the program of the<br>microcomputer                                                    | Blue        | 100 msec            |                      |                                  |
|                                                                                                                       | Red         |                     |                      |                                  |
|                                                                                                                       | Orange      | 100 msec            |                      |                                  |
| During reservation<br>video recordings<br>(Unit: Standby)                                                             | Blue        |                     |                      | PDP-4270XD and<br>PDP-427XD only |
|                                                                                                                       | Red         |                     |                      |                                  |
|                                                                                                                       | Orange      |                     |                      |                                  |
| During factory operation<br>During reservation video<br>recordings (Unit: ON) *1<br>During sleep timer operation (*2) | Blue        |                     |                      |                                  |
|                                                                                                                       | Red         |                     |                      |                                  |
|                                                                                                                       | Orange      |                     |                      |                                  |
| RS-232C <=> SR+ switch                                                                                                | Blue        | 200 msec            |                      |                                  |
|                                                                                                                       | Red         |                     |                      |                                  |
|                                                                                                                       | Orange      |                     |                      |                                  |

\*1: PDP-4270XD and PDP-427XD types  
\*2: PDP-4270XA and PDP-427XA types

## 10.5 SPECIFICATION ABOUT THE THERMAL PROTECTION

\* The change of HI / LO have hysteresis curve below.

### ■ Reading Value of the Sensor and FAN Drive



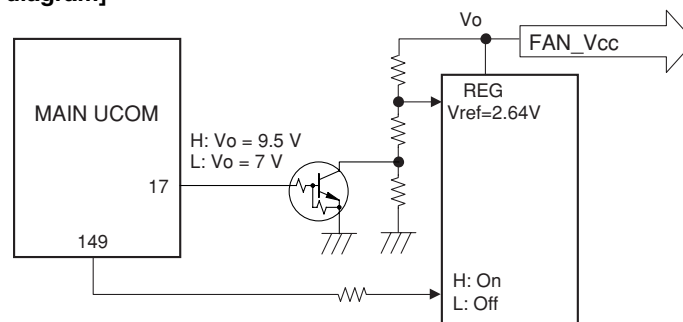
| Assign |       |            | AD Value<br>10 bit | Aims<br>(Sensor Position) | Aims<br>(Outside Air) |
|--------|-------|------------|--------------------|---------------------------|-----------------------|
| Pin 76 | TEMP2 | T4 setting | 440                | 55 °C                     | 55 °C                 |
|        |       | T3 setting | 568                | 40 °C                     | 40 °C                 |
|        |       | T2 setting | 592                | 37 °C                     | 37 °C                 |
|        |       | T1 setting | 627                | 33 °C                     | 33 °C                 |
|        |       | T0 setting | 653                | 30 °C                     | 30 °C                 |

| Assign                | FAN: HIGH | FAN: LO | STOP |
|-----------------------|-----------|---------|------|
| Pin 149 (FAN_CONT)    | H         | H       | L    |
| Pin 17 (FAN_CONT_POW) | H         | L       | —    |

### ■ Unit State and Fan Drive

| POWER | PSW1 | State  | Control                                               | FAN Operation |
|-------|------|--------|-------------------------------------------------------|---------------|
| ON    | ON   | ON     | According to the reading value of above table sensor. | HIGH or LO    |
| ON    | ON   | DT_REC | According to the reading value of above table sensor. | HIGH or LO    |
| OFF   | —    | STB    | FAN_CONT: "L"                                         | OFF           |

[System block diagram]



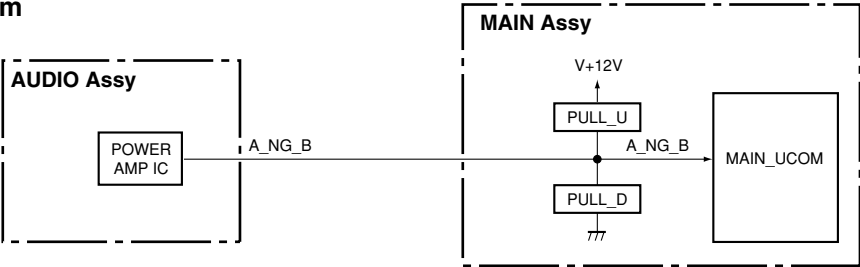
### ■ Operation when executing FAN control command

When executing [FCNS00], [FCNS01], [FCNS02] command, detect the FAN\_NG signal. When NG is detected, it becomes shutdown. When [FCNS03] command is executed, FAN\_NG detection is not operated.

10.6 PROCESSING IN ABNORMALITY

Speaker short-circuit

Circuit diagram

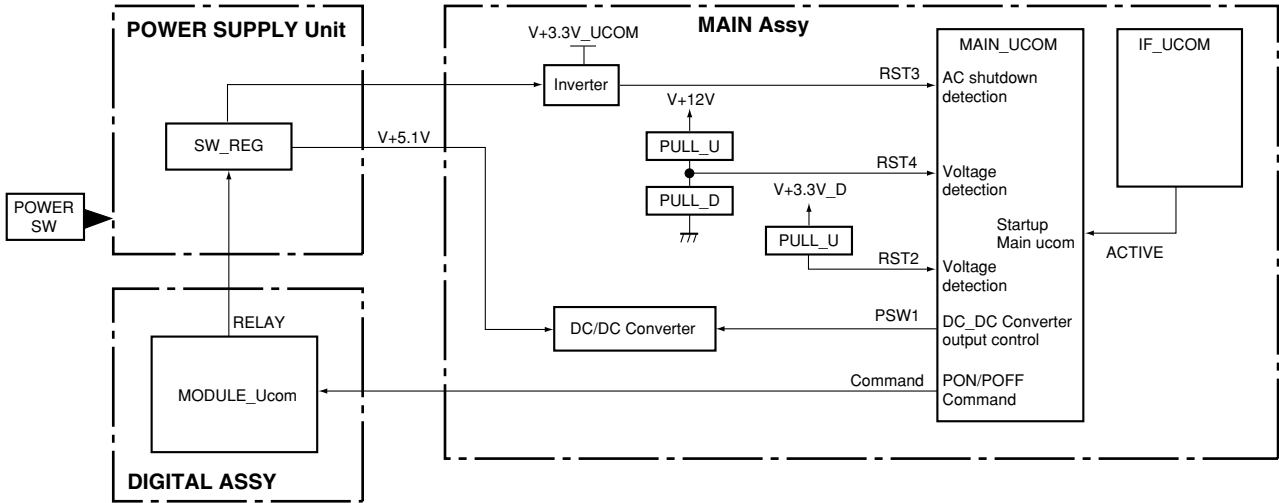


Specifications for port monitoring

| Port Name | SD/PD Indication | Assigned Pin | Active          |
|-----------|------------------|--------------|-----------------|
| A_NG_B    | AUDIO            |              | Shutdown with L |

Power supply and DC-DC converter

Circuit diagram

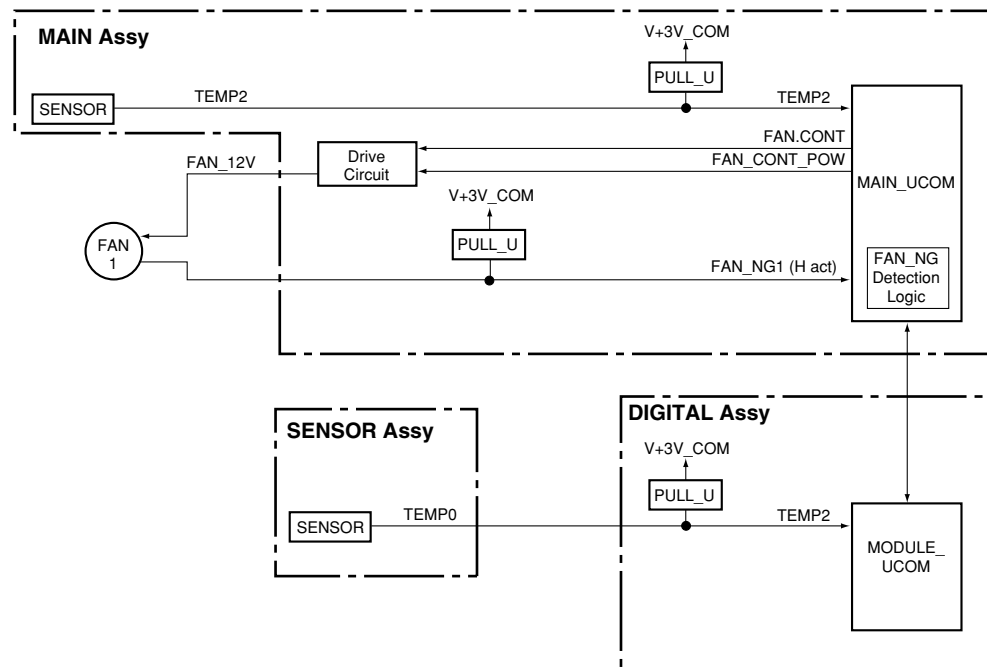


Specifications for port monitoring

| Port Name | SD/PD Indication | Assigned Pin | Active          |
|-----------|------------------|--------------|-----------------|
| RST2      | ASIC power       |              | Shutdown with L |
| RST3      | AC power         |              | AC_OFF with H   |
| RST4      | MAIN power       |              | Shutdown with L |

## Fan and temperature sensor

### ● Circuit diagram

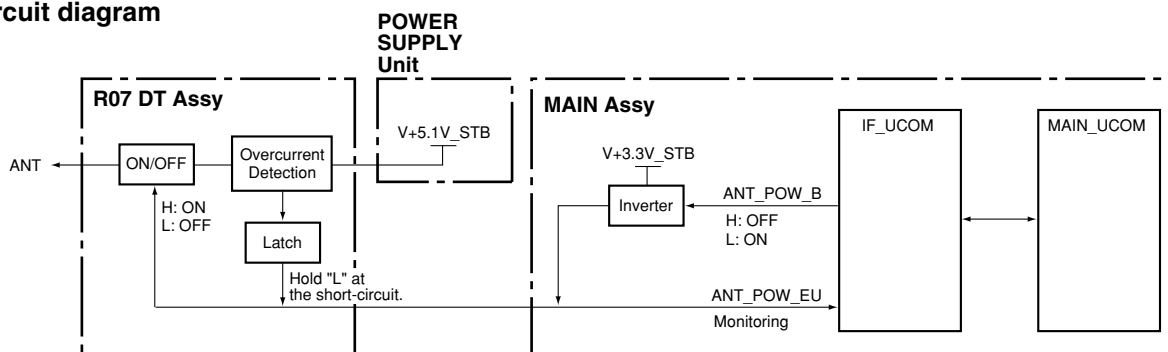


### ● Specifications for port monitoring

| Port Name | SD/PD Indication                                 | Assigned Pin | Active                                                  |
|-----------|--------------------------------------------------|--------------|---------------------------------------------------------|
| FAN_NG 1  | FAN                                              |              | Shutdown with H                                         |
| TEMP2     | Abnormally high temperature in the MR            |              | Shutdown when the value exceeds the predetermined value |
| TEMP0     | Abnormally high temperature in the Drive circuit |              | Shutdown when the value exceeds the predetermined value |

## DTB antenna power supply

### ● Circuit diagram



### ● Specifications for port monitoring

| Port Name  | SD/PD Indication  | Assigned Pin | Active         |
|------------|-------------------|--------------|----------------|
| ANT_POW_EU | DTB antenna short | IF_37        | Warning with L |

# 11. SPECIFICATIONS

## 11.1 SPECIFICATIONS

| 42" Plasma Television, model: PDP-427XD, PDP-4270XD, PDP-427XA, PDP4270XA |                     |                                                                                                                                                    |                                                                                                                              |
|---------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Number of pixels                                                          |                     | 1024 x 768 pixels                                                                                                                                  |                                                                                                                              |
| Audio amplifier                                                           |                     | 13 W + 13 W (1 kHz, 10 %, 8 Ω)                                                                                                                     |                                                                                                                              |
| Speakers                                                                  |                     | Woofer: 4.8 cm x 13 cm cone type<br>Tweeter: 2.5 cm semidome type                                                                                  |                                                                                                                              |
| Surround System                                                           |                     | SRS/FOCUS/TruBass                                                                                                                                  |                                                                                                                              |
| Power Requirements                                                        |                     | 220 V to 240 V AC, 50 Hz/60 Hz, 291 W (0,7 W Standby) : PDP-427XD, Only<br>220 V to 240 V AC, 50 Hz/60 Hz, 287 W (0,3 W Standby) : PDP-427XA, Only |                                                                                                                              |
| Dimensions                                                                |                     | 1040 mm (W) x 679 mm (H) x 115 mm (D)                                                                                                              |                                                                                                                              |
| Weight                                                                    |                     | 32.1 kg (70.8 lbs.): PDP-4270XD, 29.6 kg (65.3 lbs.): PDP-427XD<br>31.5 kg (69.5 lbs.): PDP-4270XA, 29.0 kg (64.0 lbs.): PDP-427XA                 |                                                                                                                              |
| Colour System                                                             | Analogue            | PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60                                                                                                               |                                                                                                                              |
|                                                                           | Digital             | PAL/SECAM                                                                                                                                          |                                                                                                                              |
| TV Function (Analogue)                                                    | Receiving System    | B/G, D/K, I, L/L'                                                                                                                                  |                                                                                                                              |
|                                                                           | Tuner               | VHF/UHF                                                                                                                                            | E2-E69 ch, F2-F10 ch, I21-I69 ch, IR A-IR J ch                                                                               |
|                                                                           |                     | CATV                                                                                                                                               | Hyper-band, S1-S41 ch                                                                                                        |
|                                                                           | Auto Channel Preset | 99 ch, Auto Preset, Auto Label, Auto Sort                                                                                                          |                                                                                                                              |
| TV Function (Digital)                                                     | STEREO              | NICAM/A2                                                                                                                                           |                                                                                                                              |
|                                                                           | Receiving System    | DVB-T (2 K / 8 K COFDM)                                                                                                                            |                                                                                                                              |
|                                                                           | Tuner               | VHF/UHF                                                                                                                                            | VHF Band III (170 MHz to 230 MHz) and UHF Band IV, V (470 MHz to 862 MHz)                                                    |
|                                                                           | Auto Channel Preset | 999 ch, Auto Preset, Auto Label, Auto Sort                                                                                                         |                                                                                                                              |
| Terminals                                                                 | Rear                | INPUT 1                                                                                                                                            | SCART (AV in, RGB in, TV out)                                                                                                |
|                                                                           |                     | INPUT 2                                                                                                                                            | SCART (AV in/out, S-VIDEO in, AV link *1), Component Video in                                                                |
|                                                                           |                     | INPUT 3                                                                                                                                            | SCART (AV in/out, S-VIDEO in, RGB in, AV link *1), HDMI in *2                                                                |
|                                                                           |                     | INPUT 4                                                                                                                                            | HDMI in *2 (PDP-427XD, PDP-427XA only)                                                                                       |
|                                                                           |                     | CONTROL OUT                                                                                                                                        | 1 (PDP-427XD, PDP-427XA only)                                                                                                |
|                                                                           |                     | Antenna                                                                                                                                            | 75 Ω Din Type for VHF/UHF in (Analogue)<br>75 Ω Din Type for VHF/UHF in (Digital)<br>75 Ω Din Type for VHF/UHF out (Digital) |
|                                                                           | Side                | PC                                                                                                                                                 | Analogue RGB in PC INPUT (AUDIO) (PDP-427XD, PDP-427XA only)                                                                 |
|                                                                           |                     | INPUT 4                                                                                                                                            | S-VIDEO, AV in (PDP-4270XD, PDP-4270XA only)                                                                                 |
|                                                                           |                     | INPUT 5                                                                                                                                            | S-VIDEO, AV in (PDP-427XD, PDP-427XA only)                                                                                   |
|                                                                           |                     | AUDIO OUTPUT terminal (Rear)                                                                                                                       | AUDIO out (Fixed)                                                                                                            |
|                                                                           |                     | SUB WOOFER OUTPUT terminal (Rear)                                                                                                                  | Variable (PDP-427XD, PDP-427XA only)                                                                                         |
|                                                                           |                     | PHONES OUTPUT terminal (Side)                                                                                                                      | 16 Ω to 32 Ω recommended                                                                                                     |
| COMMON INTERFACE                                                          | (Rear)              | DIGITAL OUT terminal                                                                                                                               | Digital audio output (Optical)                                                                                               |
|                                                                           |                     | CA module                                                                                                                                          |                                                                                                                              |

\*1 Switchable from menu.

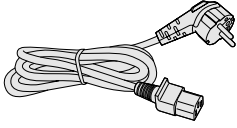
\*2 This conforms to HDMI1.1 and HDCP1.1. HDMI (High Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable. HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

Design and specifications are subject to change without notice.

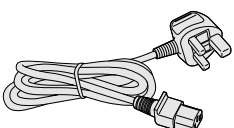
### Trademarks

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Power cord (2 m)  
(ADG1214)

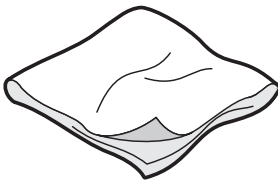


(For Europe, except UK and Eire)

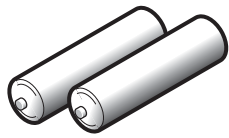


(For UK and Eire)

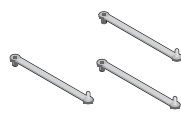
Only the power cord that is appropriate in your country or region is supplied.



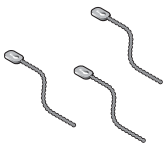
Cleaning cloth  
(AED1285)



AA size battery x 2  
(VEM1031)



Speed clamp x 3

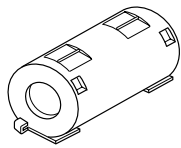


Bead band x 3

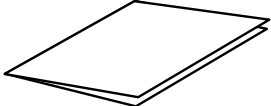
Binder Assy (AEC1908)



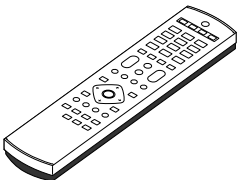
Cable tie



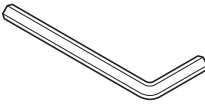
Ferrite core



Warranty card

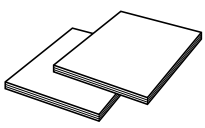


Remote control unit  
(AXD1515: PDP-4270XD/WYVIXK5)  
(AXD1532: PDP-427XD/WYVIXK5)  
(AXD1541: PDP-4270XA/WYVIXK5, WYV5)  
(AXD1540: PDP-427XA/WYVIXK5, WYV5)



Hexagonal wrench  
(Diagonal size : 6 mm)  
(AEF1029)

PDP-4270XD and PDP-4270XA only

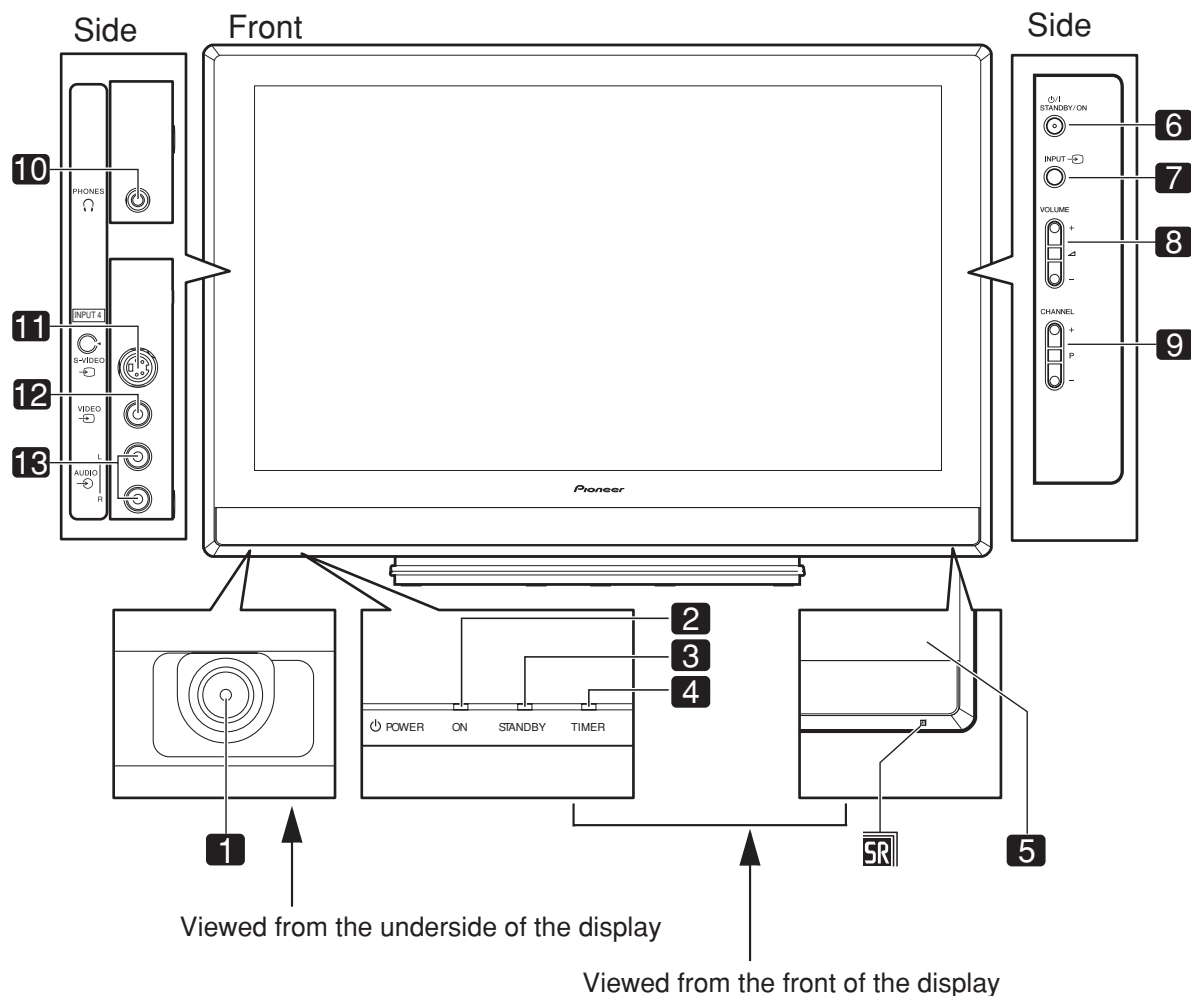


Two operating instructions  
PDP-4270XA One operating instructions Only.

## 11.3 PANEL FACILITIES

### 11.3.1 PDP-427XD, PDP-4270XD

#### • Front/side view



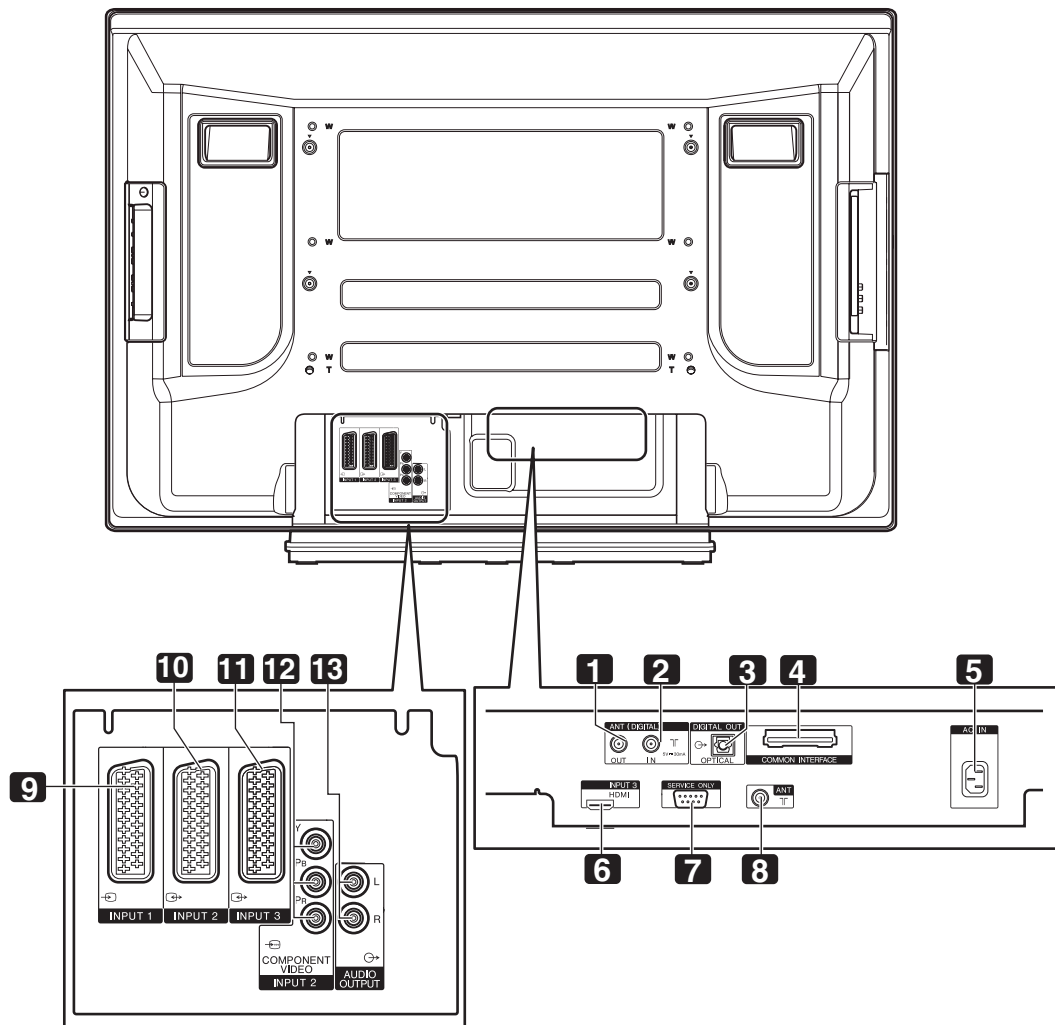
#### • For PDP-4270XD

- 1 **POWER** button
- 2 POWER ON indicator
- 3 STANDBY indicator
- 4 TIMER indicator
- 5 Remote control sensor
- 6 **STANDBY/ON** button
- 7 **INPUT** button
- 8 **VOLUME +/-** buttons
- 9 **CHANNEL +/-** buttons
- 10 PHONES output terminal
- 11 INPUT 4 terminal (S-VIDEO)
- 12 INPUT 4 terminal (VIDEO)
- 13 INPUT 4 terminal (AUDIO)

#### • For PDP-427XD

- 1 **POWER** button
- 2 POWER ON indicator
- 3 STANDBY indicator
- 4 TIMER indicator
- 5 Remote control sensor
- 6 **STANDBY/ON** button
- 7 **INPUT** button
- 8 **VOLUME +/-** buttons
- 9 **CHANNEL +/-** buttons
- 10 PHONES output terminal
- 11 INPUT 5 terminal (S-VIDEO)
- 12 INPUT 5 terminal (VIDEO)
- 13 INPUT 5 terminal (AUDIO)

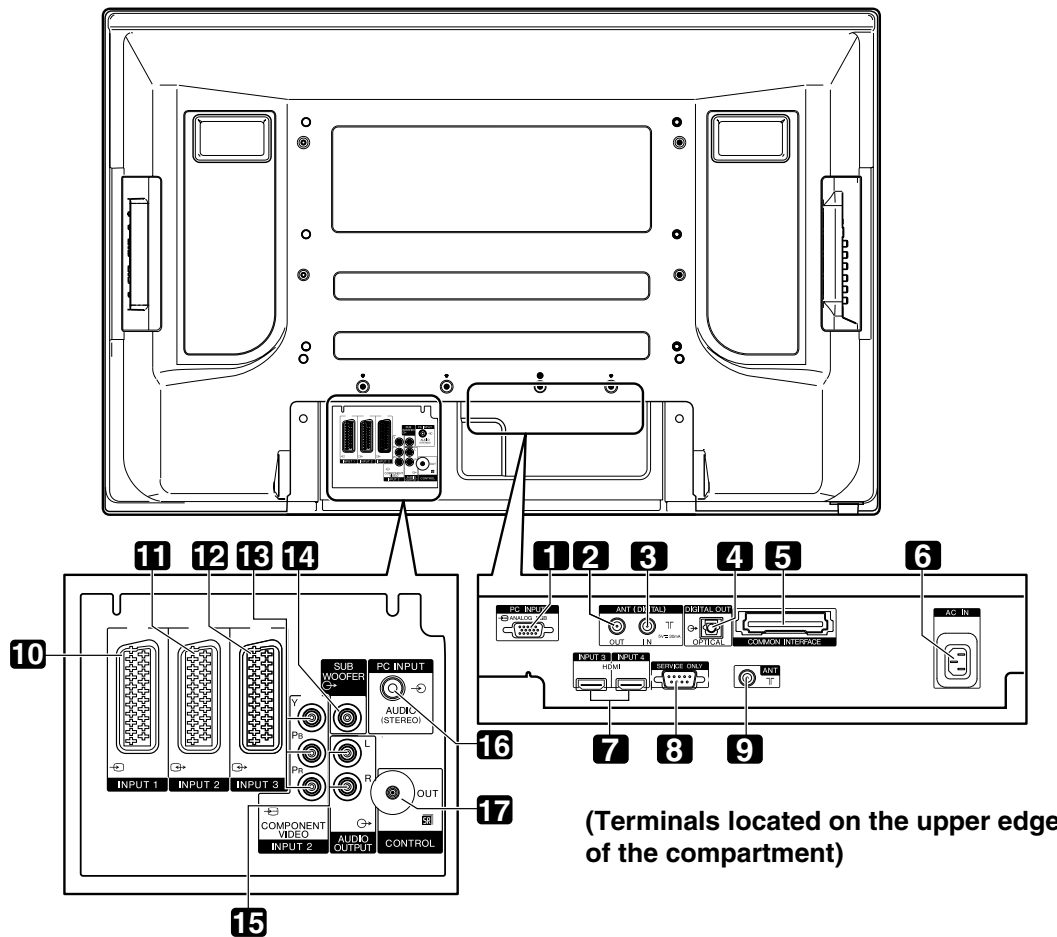
# • Rear view (PDP-4270XD)



- |                                                                                        |                                                     |
|----------------------------------------------------------------------------------------|-----------------------------------------------------|
| 1 ANT OUT terminal (Antenna through out)                                               | 8 ANT (Antenna) input terminal                      |
| 2 ANT IN terminal (Antenna in for DTV)<br>Power can be supplied through this terminal. | 9 INPUT 1 terminal (SCART)                          |
| 3 DIGITAL OUT terminal (OPTICAL)                                                       | 10 INPUT 2 terminal (SCART)                         |
| 4 COMMON INTERFACE slot<br>For a CA module with smart card.                            | 11 INPUT 3 terminal (SCART)                         |
| 5 AC IN terminal                                                                       | 12 INPUT 2 terminal<br>(COMPONENT VIDEO: Y, PB, PR) |
| 6 INPUT 3 terminal (HDMI)                                                              | 13 AUDIO OUTPUT terminals                           |
| 7 RS-232C terminal (used for factory setup)                                            |                                                     |

A

# • Rear view (PDP-427XD)



D

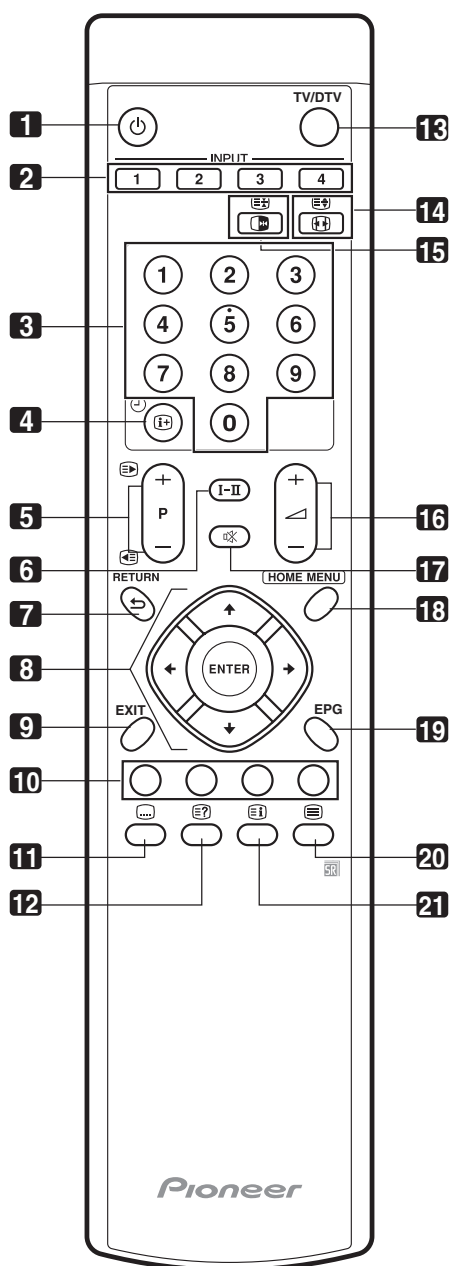
E

F

- |   |                                                                                      |    |                                                  |
|---|--------------------------------------------------------------------------------------|----|--------------------------------------------------|
| 1 | PC INPUT terminal (ANALOG RGB)                                                       | 9  | ANT (Antenna) input terminal                     |
| 2 | ANT OUT terminal (Antenna through out)                                               | 10 | INPUT 1 terminal (SCART)                         |
| 3 | ANT IN terminal (Antenna in for DTV)<br>Power can be supplied through this terminal. | 11 | INPUT 2 terminal (SCART)                         |
| 4 | DIGITAL OUT terminal (OPTICAL)                                                       | 12 | INPUT 3 terminal (SCART)                         |
| 5 | COMMON INTERFACE slot<br>For a CA module with a smart card.                          | 13 | INPUT 2 terminal<br>(COMPONENT VIDEO: Y, PB, PR) |
| 6 | AC IN terminal                                                                       | 14 | SUB WOOFER OUTPUT terminal                       |
| 7 | INPUT 3/INPUT 4 terminals (HDMI)                                                     | 15 | AUDIO OUTPUT terminals                           |
| 8 | RS-232C terminal (used for factory setup)                                            | 16 | PC INPUT terminal (AUDIO)                        |
|   |                                                                                      | 17 | CONTROL OUT terminal                             |

## • Remote control unit (PDP-4270XD)

Point the remote control at the plasma television to operate.



- 1 Turns on the power to the plasma television or places it into the standby mode.
- 2 **INPUT**  
Selects an input source of the plasma television. (INPUT 1, INPUT 2, INPUT 3, INPUT 4)
- 3 **0 - 9**  
TV/External input mode: Selects a channel.  
TELETEXT mode: Selects a page.
- 4 TV/External input mode: Displays the channel information.  
DTV input mode: Displays the banner information.

- 5 **P+/P-**  
TV/External input mode: Selects a channel.



TELETEXT mode: Selects a page.

- 6 **I-II**  
Sets the sound multiplex mode.

- 7 **RETURN**  
Restores the previous menu screen.

- 8   
Selects a desired item on the setting screen.  
**ENTER**  
Executes a command.

- 9 **EXIT**  
Returns to the normal screen in one step.

- 10 **Colour (RED/GREEN/YELLOW/BLUE)**  
TELETEXT mode: Selects a page.

- 11 TV/External input mode: Jumps to the Teletext subtitle page.  
DTV input mode: Turns subtitle on and off.

- 12 Displays hidden characters.

- 13 **TV/DTV**  
Switches between the TV and DTV input modes.

- 14 TV/External input mode: Selects the screen size.  
 TELETEXT mode: Switches Teletext images. (full/upper half/lower half)

- 15 TV/External input mode: Freezes a frame from a moving image. Press again to cancel the function.  
 TELETEXT mode: Stops updating Teletext pages. Press again to release the hold mode.

- 16 Sets the volume.

- 17 Mutes the sound.

- 18 **HOME MENU**  
TV/External Input mode: Displays the Menu screen.

- 19 **EPG**  
Displays the Electronic Programme Guide.

- 20 Selects the TELETEXT mode (all TV image, all TEXT image, TV/TEXT image).

- 21 TELETEXT mode: Displays an Index page for the CEEFAX/FLOF format. Displays a TOP Over View page for the TOP format.

A

## • Remote control unit (PDP-427XD)

This section describes the functions of the buttons available when the TV mode has been selected using the **SELECT** button.

For the buttons for controlling other equipment, see "Controlling other equipment using the supplied remote control unit".

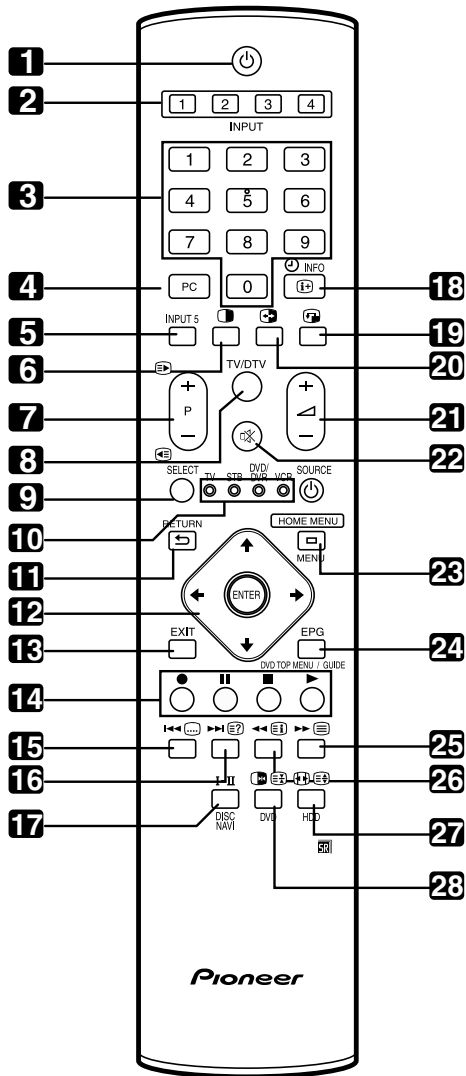
B

C

D

E

F



TELETEXT mode: Selects a page.

### 8 TV/DTV

Switches between the TV and DTV input modes.

### 9 SELECT

Switches the selection among TV, STB, DVD/DVR, and VCR, so that you can control other equipment in connection, using the supplied remote control unit.

### 10 TV, STB, DVD/DVR, VCR

These indicators show the current selection and status when you control other equipment in connection using the supplied remote control unit.

### 11 RETURN

Restores the previous menu screen.

### 12 ↑/↓/←/→

Selects a desired item on the setting screen.

### ENTER

Executes a command.

### 13 EXIT

Returns to the normal screen in one step.

### 14 Colour (RED/GREEN/YELLOW/BLUE)

TELETEXT mode: Selects a page.

### 15 ...

TV/External input mode: Jumps to the Teletext subtitle page.  
DTV input mode: Turns subtitle on and off.

### 16 ?

TELETEXT mode: Displays hidden characters.

### 17 I-II

Sets the sound multiplex mode.

### 18 ⓘ ⓘ INFO

TV/External input mode: Displays the channel information.  
DTV input mode: Displays the banner information.

### 19 Ⓜ

Moves the location of the small screen when in the picture-in-picture mode.

### 20 Ⓜ

Switches between the two screens when in the 2-screen or picture-in-picture mode.

### 21 ▲ +/▲ -

Sets the volume.

### 22 🔇

Mutes the sound.

### 23 HOME MENU

TV/External Input mode: Displays the Menu screen.

### 24 EPG

Display the Electronic Programme Guide.

### 25 ⓘ

Selects the TELETEXT mode. (all TV image, all TEXT image, TV/TEXT image)

### 26 ⓘ

TELETEXT mode: Displays an Index page for the CEEFAX/FLOF format. Displays a TOP Over View page for the TOP format.

### 27 ⓘ

TV/External input mode: Selects the screen size.

### ⓘ

TELETEXT mode: Switches Teletext images. (full/upper half/lower half)

### 28 Ⓜ

TV/External input mode: Freezes a frame from a moving image. Press again to cancel the function.

### ⓘ

TELETEXT mode: Stops updating Teletext pages. Press again to release the hold mode.



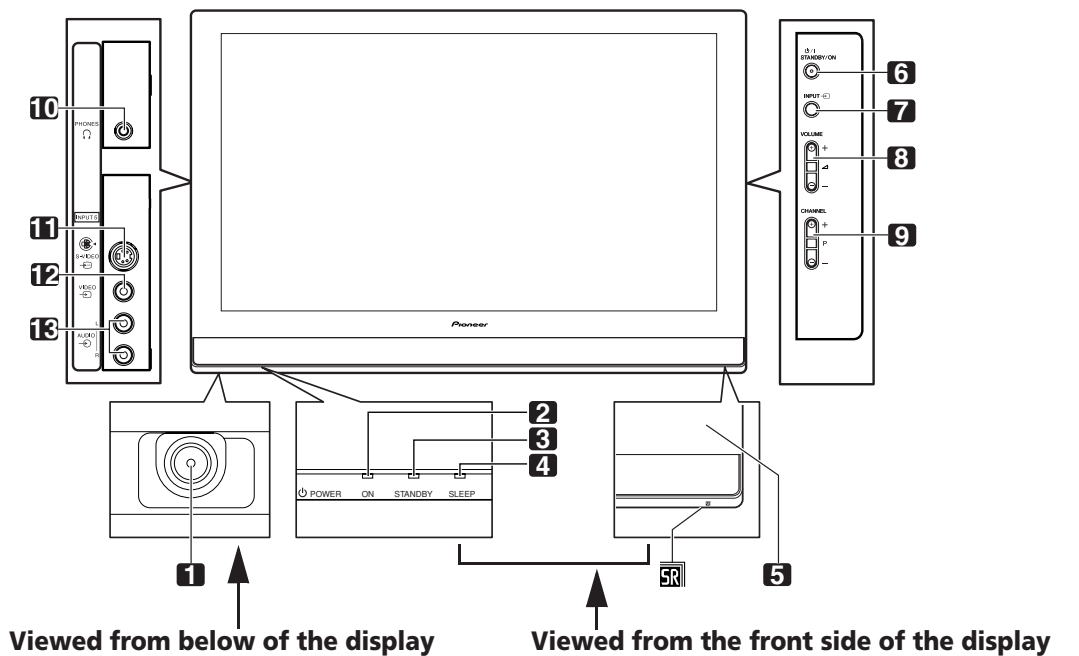
### NOTE

• When using the remote control unit, point it at the Plasma Television.

## 11.3.2 PDP-427XA, PDP-4270XA

### • Front / Rear (PDP-427XA)

#### Front view (PDP-427XA)

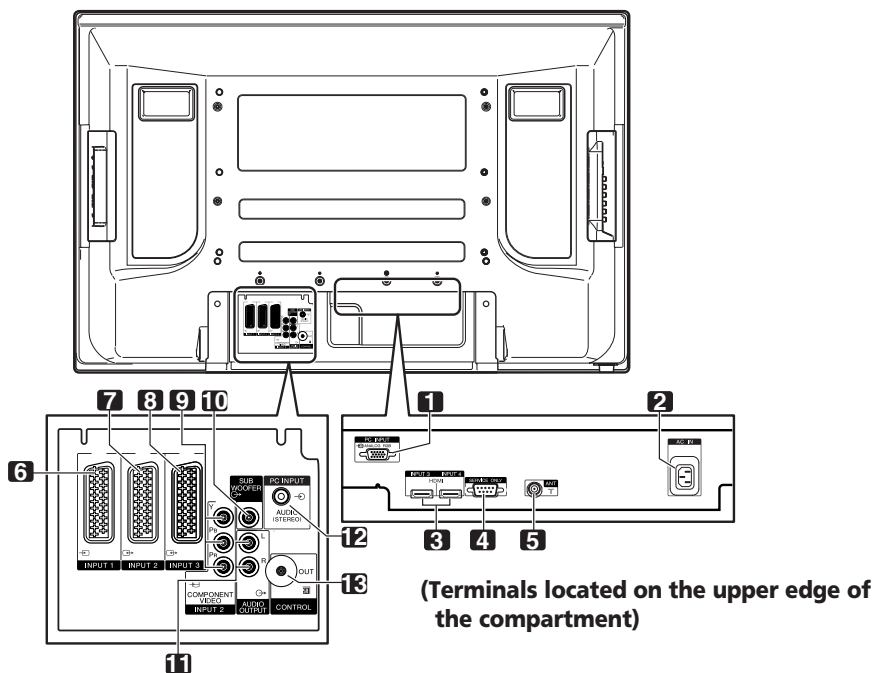


- 1 POWER button
- 2 POWER ON indicator
- 3 STANDBY indicator
- 4 SLEEP indicator
- 5 Remote control sensor

- (Side view)
- 6 STANDBY/ON button
  - 7 INPUT button
  - 8 VOLUME +/- buttons
  - 9 CHANNEL +/- buttons

- 10 PHONES output terminal
- 11 INPUT 5 terminal (S-VIDEO)
- 12 INPUT 5 terminal (VIDEO)
- 13 INPUT 5 terminals (AUDIO)

#### Rear view (PDP-427XA)



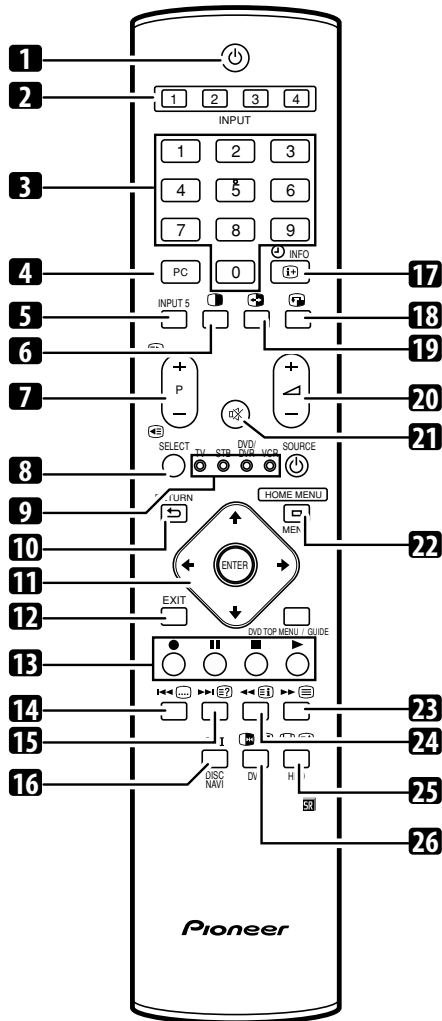
- 1 PC INPUT terminal (ANALOG RGB)
- 2 AC IN terminal
- 3 INPUT 3/INPUT 4 terminals (HDMI)
- 4 RS-232C terminal (used for factory setup)
- 5 ANT (Antenna) input terminal
- 6 INPUT 1 terminal (SCART)
- 7 INPUT 2 terminal (SCART)

- 8 INPUT 3 terminal (SCART)
- 9 INPUT 2 terminal (COMPONENT VIDEO: Y, Pb, Pr)
- 10 SUB WOOFER OUTPUT terminal
- 11 AUDIO OUTPUT terminals
- 12 PC INPUT terminal (AUDIO)
- 13 CONTROL OUT terminal

## • PDP-427XA (Remote control unit)

### Remote control unit

This section describes the functions of the buttons available when the TV mode has been selected using the **SELECT** button. For the buttons for controlling other equipment, see "Controlling other equipment using the supplied remote control unit" starting.



- 1 Turns on the power to the Plasma Television or places it into the standby mode.
- 2 **INPUT**  
Selects an input source of the Plasma Television. (INPUT 1, INPUT 2, INPUT 3, INPUT 4)
- 3 **0 - 9**  
TV/External input mode: Selects a channel.  
TELETEXT mode: Selects a page.
- 4 **PC**  
Selects the PC terminal as an input source.
- 5 **INPUT 5**  
Selects INPUT 5 as the input source of the Plasma Television.
- 6 Switches the screen mode among 2-screen, picture-in-picture, and single-screen.
- 7 **P+/P-**  
TV/External input mode: Selects a channel.  
 TELETEXT mode: Selects a page.

### 8 **SELECT**

Switches the selection among TV, STB, DVD/DVR, and VCR, so that you can control other equipment in connection, using the supplied remote control unit.

### 9 **TV, STB, DVD/DVR, VCR**

These indicators show the current selection and status when you control other equipment in connection using the supplied remote control unit.

### 10 **RETURN**

Restores the previous menu screen.

### 11

Selects a desired item on the setting screen.

### **ENTER**

Executes a command.

### 12 **EXIT**

Returns to the normal screen in one step.

### 13 **Colour (RED/GREEN/YELLOW/BLUE)**

TELETEXT mode: Selects a page.

### 14

TV/External input mode: Jumps to the Teletext subtitle page.

### 15

TELETEXT mode: Displays hidden characters.

### 16 **I-II**

Sets the sound multiplex mode.

### 17 **INFO**

TV/External input mode: Displays the channel information.

### 18

Moves the location of the small screen when in the picture-in-picture mode.

### 19

Switches between the two screens when in the 2-screen or picture-in-picture mode.

### 20

Sets the volume.

### 21

Mutes the sound.

### 22 **HOME MENU**

TV/External Input mode: Displays the Menu screen.

### 23

Selects the TELETEXT mode.  
(all TV image, all TEXT image, TV/TEXT image)

### 24

TELETEXT mode: Displays an Index page for the CEEFAX/FLOF format. Displays a TOP Over View page for the TOP format.

### 25

TV/External input mode: Selects the screen size.

### 

TELETEXT mode: Switches Teletext images. (full/upper half/lower half)

### 26

TV/External input mode: Freezes a frame from a moving image. Press again to cancel the function.

### 

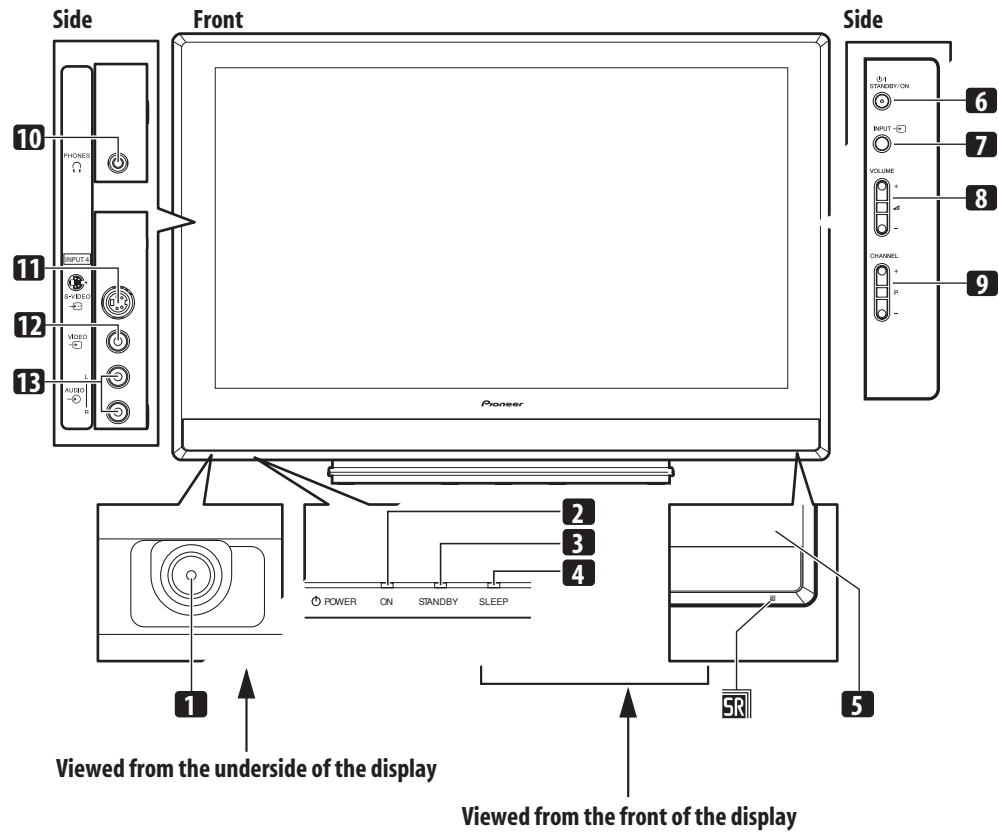
TELETEXT mode: Stops updating Teletext pages. Press again to release the hold mode.

### **NOTE**

When using the remote control unit, point it at the Plasma Television.

• Front (PDP-4270XA)

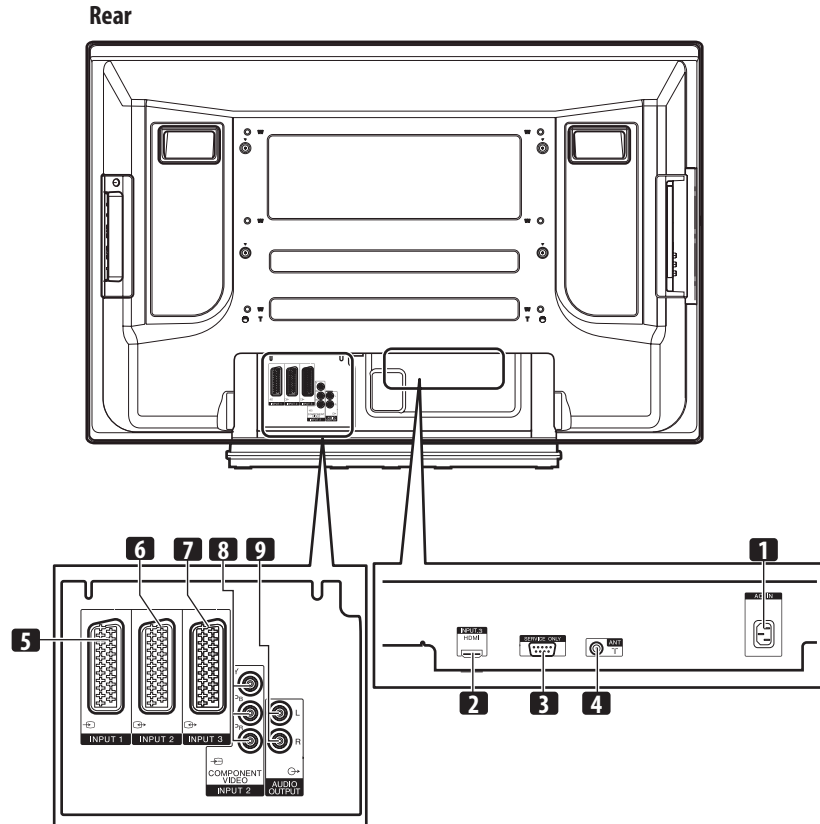
## Plasma television (front)



- 1 **POWER** button
- 2 POWER ON indicator
- 3 STANDBY indicator
- 4 SLEEP indicator
- 5 Remote control sensor
- 6 **STANDBY/ON** button
- 7 **INPUT** button
- 8 **VOLUME +/-** buttons
- 9 **CHANNEL +/-** buttons
- 10 PHONES output terminal
- 11 INPUT 4 terminal (S-VIDEO)
- 12 INPUT 4 terminal (VIDEO)
- 13 INPUT 4 terminal (AUDIO)

• Rear view (PDP-4270XA)

## Plasma television (rear)

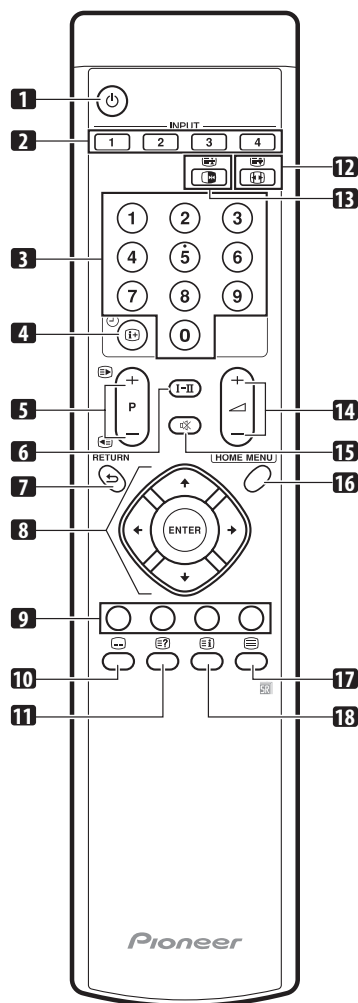


- 1 AC IN terminal
- 2 INPUT 3 terminal (HDMI)
- 3 RS-232C terminal (used for factory setup)
- 4 ANT (Antenna) input terminal
- 5 INPUT 1 terminal (SCART)
- 6 INPUT 2 terminal (SCART)
- 7 INPUT 3 terminal (SCART)
- 8 INPUT 2 terminal (COMPONENT VIDEO: Y, PB, PR)
- 9 AUDIO OUTPUT terminals

## • Remote control unit (PDP-4270XA)

### Remote control unit

Point the remote control at the plasma television to operate.



- 1 Turns on the power to the plasma television or places it into the standby mode.
- 2 **INPUT**  
Selects an input source of the plasma television. (INPUT 1, INPUT 2, INPUT 3, INPUT 4)
- 3 **0-9**  
TV/External input mode: Selects a channel.  
TELETEXT mode: Selects a page.
- 4 TV/External input mode: Displays the channel information.

- 5 **P+/P-**  
TV/External input mode: Selects a channel.  
 /   
TELETEXT mode: Selects a page.
- 6 **I-II**  
Sets the sound multiplex mode.
- 7 **RETURN**  
Restores the previous menu screen.
- 8 / / /   
Selects a desired item on the setting screen.  
**ENTER**  
Executes a command.
- 9 **Colour (RED/GREEN/YELLOW/BLUE)**  
TELETEXT mode: Selects a page.
- 10 TV/External input mode: Jumps to the Teletext subtitle page.
- 11 Displays hidden characters.
- 12 TV/External input mode: Selects the screen size.  
 TELETEXT mode: Switches Teletext images. (full/upper half/lower half)
- 13 TV/External input mode: Freezes a frame from a moving image. Press again to cancel the function.  
 TELETEXT mode: Stops updating Teletext pages. Press again to release the hold mode.
- 14 Sets the volume.
- 15 Mutes the sound.
- 16 **HOME MENU**  
TV/External Input mode: Displays the Menu screen.
- 17 Selects the TELETEXT mode (all TV image, all TEXT image, TV/TEXT image).
- 18 TELETEXT mode: Displays an Index page for the CEEFAX/FLOF format. Displays a TOP Over View page for the TOP format.

12. IC INFORMATION

The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

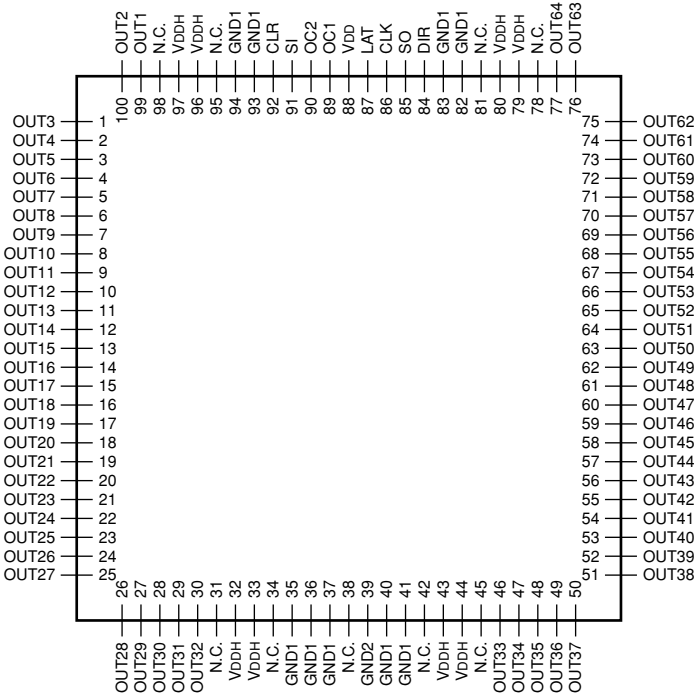
List of IC

SN755870KPZT, PEE002A, R2S11002AFT, R2S11001FT, UPD64015AGM-UEU, AD9985KSTZ-110, SII9023CTU, LTC3414EFE, LTC3412EFE, S-1170B25UC-OTA, S-1170B15UC-OTK, NJU26901E2

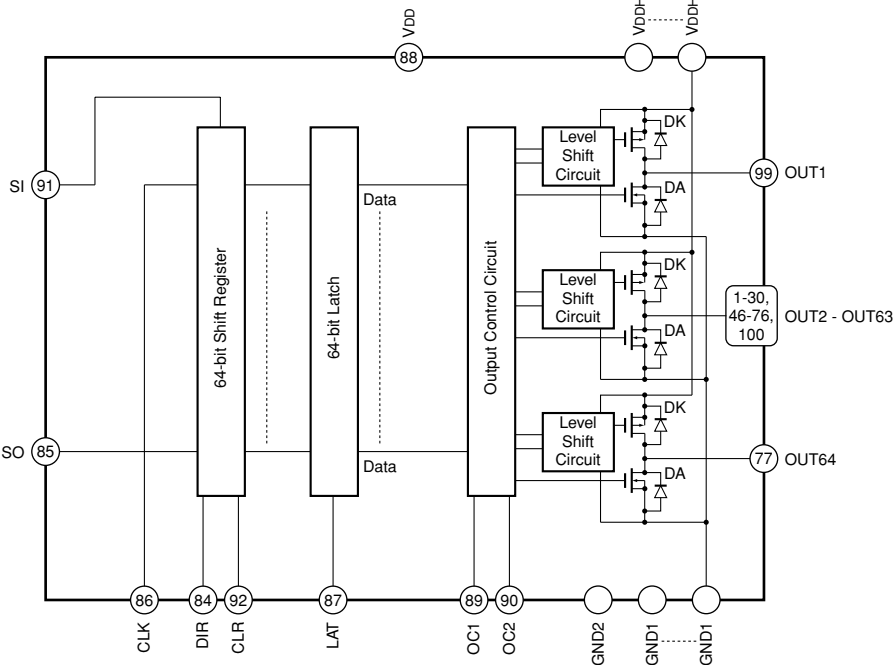
SN755870KPZT (42 SCAN A ASSY: IC2701 to IC2706)  
(42 SCAN B ASSY: IC2801 to IC2806)

Plasma Display Panel IC

Pin Arrangement (Top view)



Block Diagram



# ● Pin Function

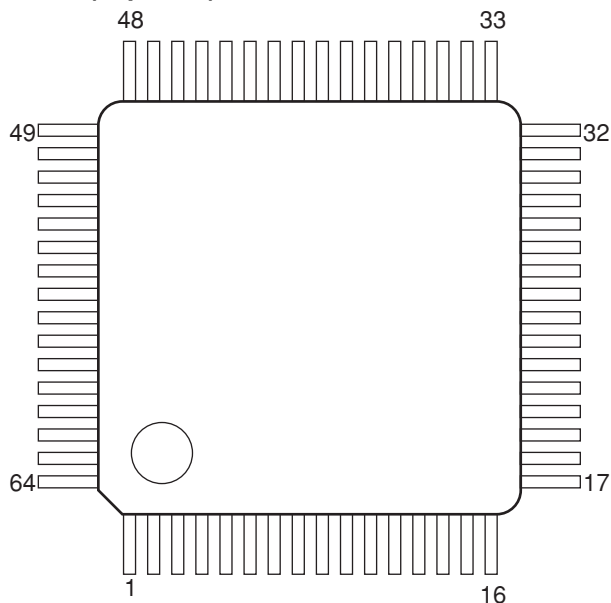
| No.      | Pin Name         | I/O | Pin Function                                                                                                             |
|----------|------------------|-----|--------------------------------------------------------------------------------------------------------------------------|
| 1 - 30   | OUT3 - OUT32     | O   | High-voltage push-pull output                                                                                            |
| 31       | N.C.             | –   | Not used                                                                                                                 |
| 32 - 33  | V <sub>DDH</sub> | –   | Power for High-voltage circuit                                                                                           |
| 34       | N.C.             | –   | Not used                                                                                                                 |
| 35 - 37  | GND1             | –   | GND                                                                                                                      |
| 38       | N.C.             | –   | Not used                                                                                                                 |
| 39       | GND2             | –   | GND                                                                                                                      |
| 40 - 41  | GND1             | –   | GND                                                                                                                      |
| 42       | N.C.             | –   | Not used                                                                                                                 |
| 43 - 44  | V <sub>DDH</sub> | –   | Power for High-voltage circuit                                                                                           |
| 45       | N.C.             | –   | Not used                                                                                                                 |
| 46 - 77  | OUT33 - OUT64    | O   | High-voltage push-pull output                                                                                            |
| 78       | N.C.             | –   | Not used                                                                                                                 |
| 79 - 80  | V <sub>DDH</sub> | –   | Power for High-voltage circuit                                                                                           |
| 81       | N.C.             | –   | Not used                                                                                                                 |
| 82 - 83  | GND1             | –   | GND                                                                                                                      |
| 84       | DIR              | I   | Setting the shift direction of shift-register<br>L : reverse side shift (SO→SI), H : forward side shift (SI→SO)          |
| 85       | SO               | I/O | Serial data In/Out                                                                                                       |
| 86       | CLK              | I   | Serial clock Input    Down-side edge trigger                                                                             |
| 87       | LAT              | I   | LAT data Input<br>L : The data of shiftregister is transferred to ouput latch.<br>H : The ouput data of latch is holded. |
| 88       | V <sub>DD</sub>  | –   | Power for Logic circuit                                                                                                  |
| 89       | OC1              | I   | Output control<br>Output is controlled by truth table right side.                                                        |
| 90       | OC2              | I   |                                                                                                                          |
| 91       | SI               | I/O | Serial data In/Out                                                                                                       |
| 92       | CLR              | I   | All output reset   CLR terminal : L → normal operation, CLR terminal : H→ All output "H"                                 |
| 93 - 94  | GND1             | –   | GND                                                                                                                      |
| 95       | N.C.             | –   | Not used                                                                                                                 |
| 96 - 97  | V <sub>DDH</sub> | –   | Power for High-voltage circuit                                                                                           |
| 98       | N.C.             | –   | Not used                                                                                                                 |
| 99 - 100 | OUT1 - OUT2      | O   | High-voltage push-pull output                                                                                            |

A

## PEE002A (42 ADDRESS ASSY: IC1501)

• LVDS Receiver

### ● Pin Arrangement (Top view)



B

C

### ● Pin Function

| No. | I/O Type           | Signal  |
|-----|--------------------|---------|
| 1   | LRGND              |         |
| 2   | bb_silcdhsip_7c19a | RAMP1   |
| 3   | bb_silcdhsip_7c19a | RAPP1   |
| 4   | bb_silcdhsip_7c19a | RBMP1   |
| 5   | bb_silcdhsip_7c19a | RBPP1   |
| 6   | LRVDD              |         |
| 7   | bb_silcdhsip_7c19a | RCMP1   |
| 8   | bb_silcdhsip_7c19a | RCPP1   |
| 9   | bb_silcdhsip_7c19a | RCLKMP1 |
| 10  | bb_silcdhsip_7c19a | RCLKPP1 |
| 11  | bb_silcdhsip_7c19a | RDMP1   |
| 12  | bb_silcdhsip_7c19a | RDPP1   |
| 13  | LRGND              |         |
| 14  | LPGND              |         |
| 15  | LPVDD              |         |
| 16  | SIBTD              | TEST0   |
| 17  | SIBTD              | TEST1   |
| 18  | SIBTD              | PHSSEL1 |
| 19  | SIBTD              | PHSSEL0 |
| 20  | SIBTD              | DIV0    |
| 21  | SIBTD              | DIV1    |
| 22  | GND                |         |

D

E

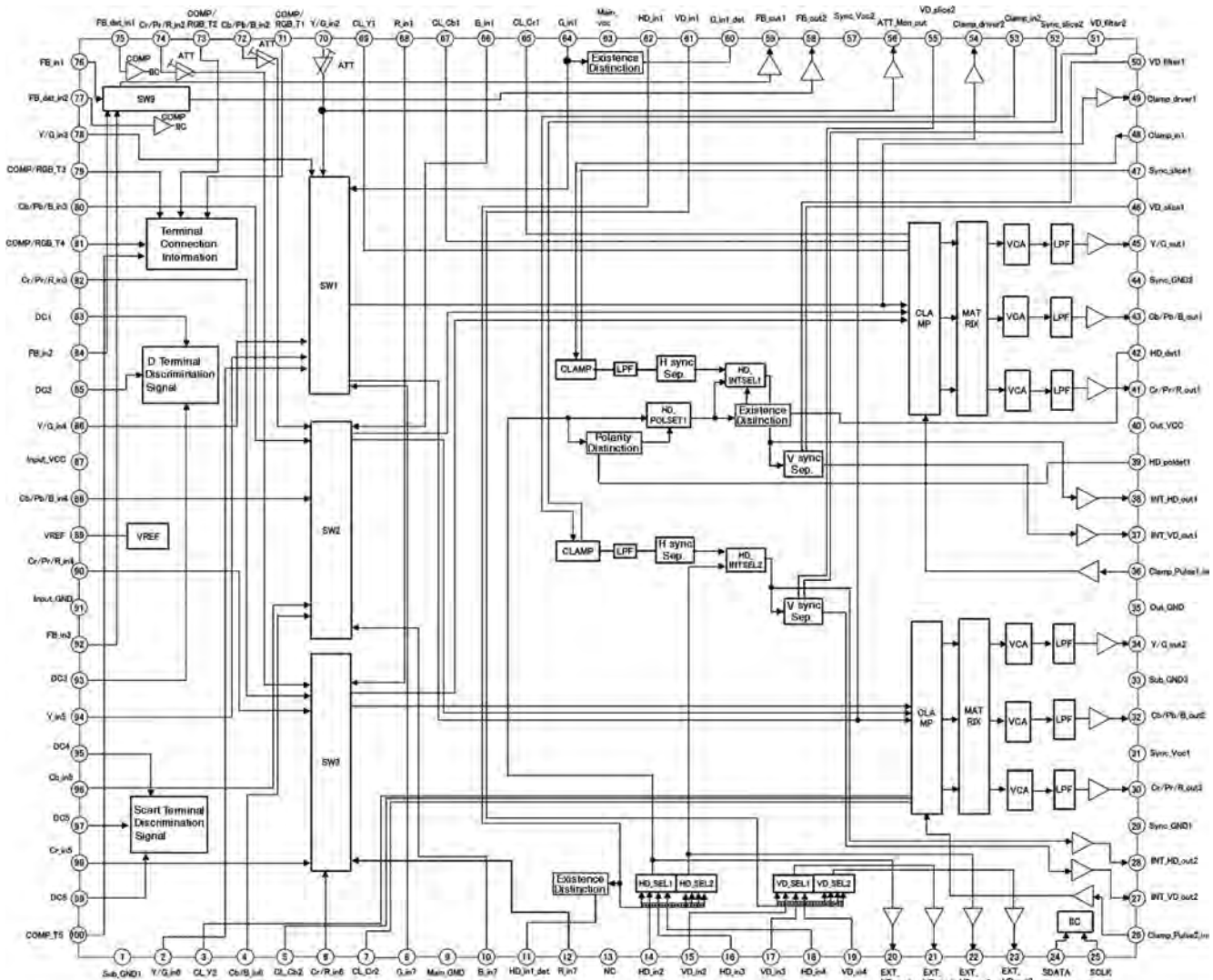
F

| No. | I/O Type | Signal |
|-----|----------|--------|
| 23  | VDD      |        |
| 24  | VDD      |        |
| 25  | SOT4L    | R_E    |
| 26  | SOT4L    | G_E    |
| 27  | SOT4L    | B_E    |
| 28  | GND      |        |
| 29  | SOT4L    | ADRSV3 |
| 30  | SOT4L    | R_D    |
| 31  | SOT4L    | G_D    |
| 32  | SOT4L    | B_D    |
| 33  | VDD      |        |
| 34  | SOT8FL   | LE     |
| 35  | GND      |        |
| 36  | SOT12FL  | CLKOUT |
| 37  | VDD      |        |
| 38  | SOT4L    | ADR_B  |
| 39  | SOT4L    | ADR_D  |
| 40  | SOT4L    | ADR_U1 |
| 41  | SOT4L    | ADR_G  |
| 42  | SOT4L    | LBLK   |
| 43  | SOT4L    | HBLK   |
| 44  | GND      |        |

| No. | I/O Type | Signal |
|-----|----------|--------|
| 45  | SOT4L    | HZ     |
| 46  | SOT4L    | R_C    |
| 47  | SOT4L    | G_C    |
| 48  | SOT4L    | B_C    |
| 49  | VDD      |        |
| 50  | SOT4L    | ADRSV2 |
| 51  | SOT4L    | R_B    |
| 52  | GND      |        |
| 53  | SOT4L    | G_B    |
| 54  | SOT4L    | B_B    |
| 55  | GND      |        |
| 56  | VDD      |        |
| 57  | SOT4L    | ADRSV1 |
| 58  | VDD      |        |
| 59  | SOT4L    | R_A    |
| 60  | SOT4L    | G_A    |
| 61  | GND      |        |
| 62  | SOT4L    | B_A    |
| 63  | SOT4L    | ADRSV0 |
| 64  | SISTD    | OE     |

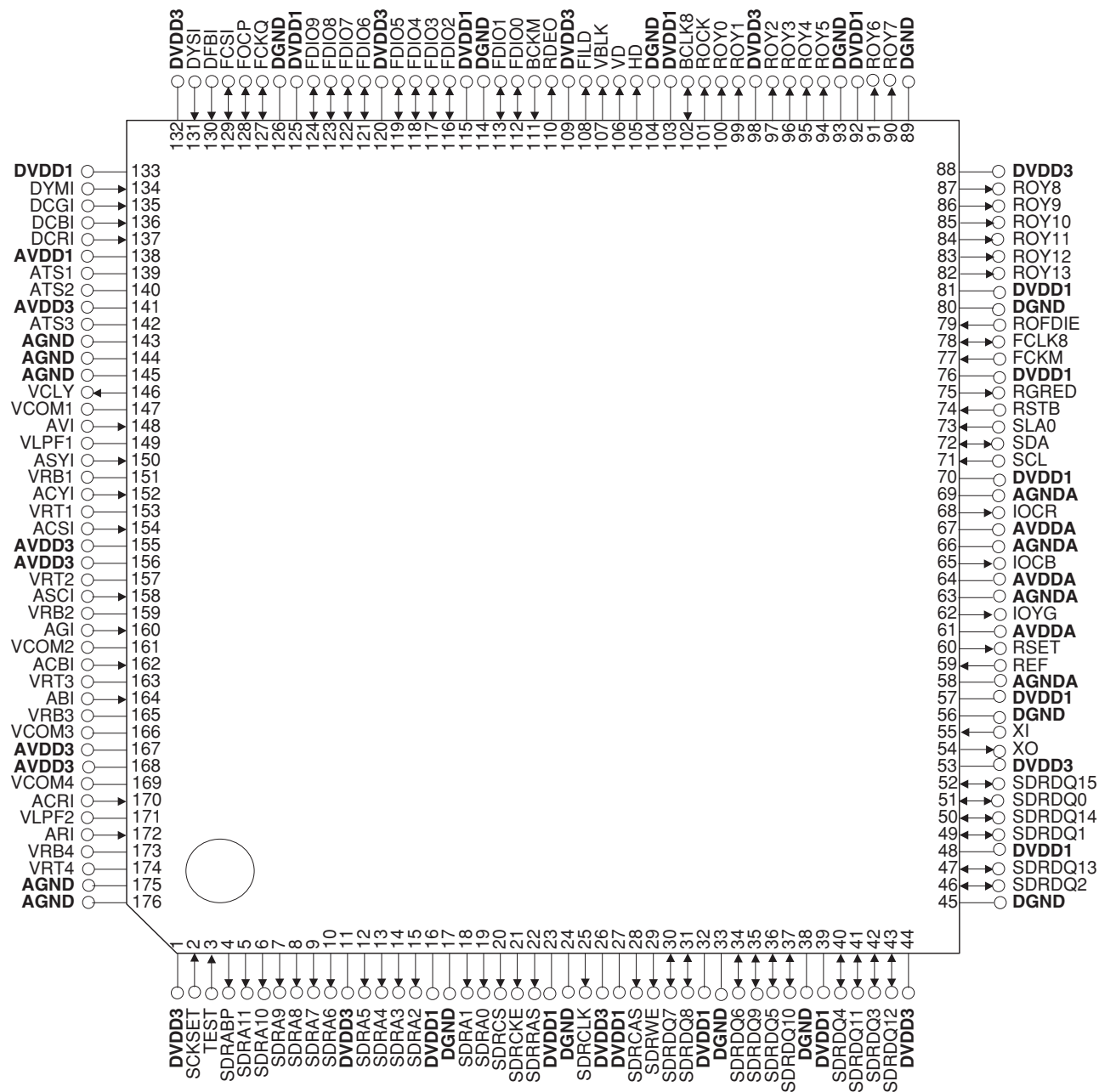


- **Block Diagram**



- Video Decoder (for main screen)

● **Pin Arrangement (Top view)**



A

# ● Block Diagram

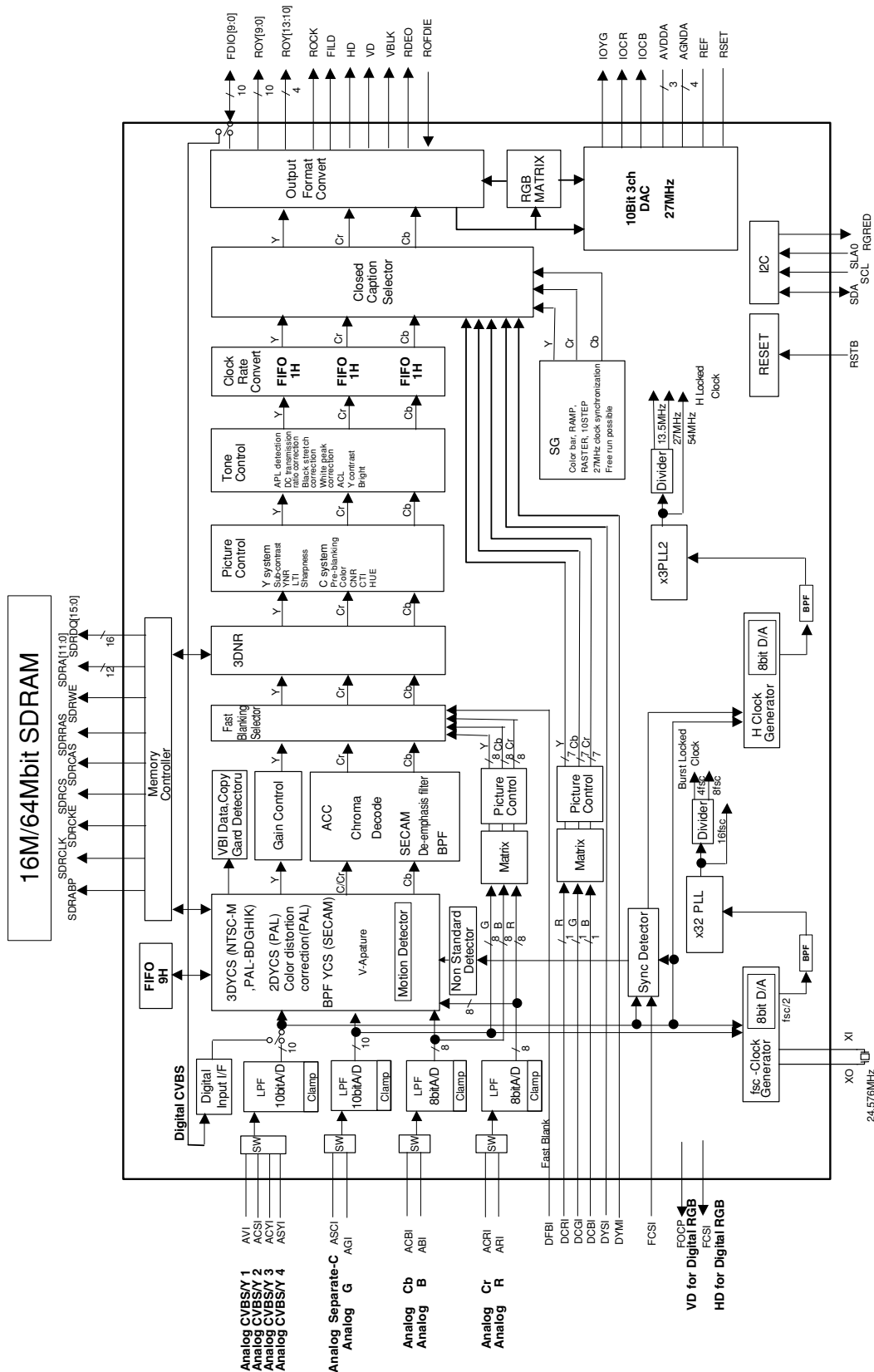
B

C

D

E

F



## ● Pin Function

### 2.1 Power supply/ground terminal

| Acronyms | Terminal number                                          | I/O | Level | Buffer type<br>PU/PD [kΩ] | Functions                                                                                                                   |
|----------|----------------------------------------------------------|-----|-------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| AVDD1    | 138                                                      | —   | —     | —                         | Analog 1.5V power supply<br>Connect to the 1.5V power supply. Separate it from the other terminals via a filter.            |
| AVDD3    | 141                                                      | —   | —     | —                         | Analog 3.3V power supply<br>Connect to the 3.3V power supply. Separate it from the other terminals via a filter.            |
|          | 155,156,167,168                                          | —   | —     | —                         | Analog 3.3V power supply for ADC.<br>Connect to the 3.3V power supply. Separate it from the other power lines via a filter. |
| AVDDA    | 61,64,67                                                 | —   | —     | —                         | Analog 3.3V power supply for DAC.<br>Connect to the 3.3V power supply. Separate it from the other power lines via a filter. |
| AGND     | 143,144,145,175,176                                      | —   | —     | —                         | Analog ground                                                                                                               |
| AGNDA    | 58,63,66,69                                              | —   | —     | —                         | Analog ground (for DAC)                                                                                                     |
| DVDD1    | 16,23,27,32,39,48,<br>57,70,76,81,92,103,<br>115,125,133 | —   | —     | —                         | Digital 1.5V power supply<br>Connect to the 1.5V power supply.                                                              |
| DVDD3    | 1,11,26,44,53,88,98,<br>109,120,132                      | —   | —     | —                         | Digital 3.3V power supply<br>Connect to the 3.3V power supply.                                                              |
| DGND     | 17,24,33,38,45,56,<br>80,89,93,104,114,<br>126           | —   | —     | —                         | Digital ground                                                                                                              |

### 2.2 System reset terminal

| Acronyms | Terminal number | I/O | Level   | Buffer type<br>PU/PD [kΩ] | Functions                       |
|----------|-----------------|-----|---------|---------------------------|---------------------------------|
| RSTB     | 74              | I   | Schmitt | —                         | System reset input (Active-Low) |

A

## ● Pin Function

### 2.3 I2C bus interface terminal

| Acronyms | Terminal number | I/O | Level                    | Buffer type<br>PU/PD [kΩ] | Functions                                                                                                                                                            |
|----------|-----------------|-----|--------------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RGRED    | 75              | O   | LVTTL<br>N-ch open drain | 6 mA                      | I <sup>2</sup> C register lead flag output (Active-Low)                                                                                                              |
| SCL      | 71              | I   | LVTTL                    | Fail-safe                 | I <sup>2</sup> C bus clock input<br>Connect to the SCL line of the system.                                                                                           |
| SDA      | 72              | I/O | LVTTL<br>N-ch open drain | Fail-safe<br>6 mA         | I <sup>2</sup> C bus data input/output<br>Connect to the SDA line of the system.                                                                                     |
| SLA0     | 73              | I   | LVTTL                    | —                         | I <sup>2</sup> C bus slave address selection input<br>(L : B8h/B9h, H : BAh/BBh)<br>Connect to GND when set to low level and to DVDD3 (3.3V) when set to high level. |

C

### 2.4 Terminal for test

| Acronyms | Terminal number | I/O | Level  | Buffer type<br>PU/PD [kΩ] | Functions                                                           |
|----------|-----------------|-----|--------|---------------------------|---------------------------------------------------------------------|
| SCKSET   | 2               | I   | LVTTL  | —                         | Test mode selection (L: normal, H: test mode)                       |
| TEST     | 3               | I   | LVTTL  | —                         | Test setting (L: normal, H: test mode)                              |
| FCKM     | 77              | I   | LVTTL  | —                         | FCLK8 test mode selection<br>(L: normal, H: test mode)              |
| BCKM     | 111             | I   | LVTTL  | —                         | Test mode selection of BCLK8 terminal.<br>(L: normal, H: test mode) |
| ATS1     | 139             | I   | Analog | —                         | Analog test input<br>Connect to GND normally.                       |
| ATS2     | 140             | I   | Analog | —                         | Analog test input<br>Connect to GND normally.                       |
| ATS3     | 142             | I   | Analog | —                         | Analog test input<br>Connect to GND normally.                       |
| VLPF1    | 149             | O   | Analog | —                         | Analog test output<br>Connect to GND via a 0.1μF capacitor.         |
| VLPF2    | 171             | O   | Analog | —                         | Analog test output<br>Connect to GND via a 0.1μF capacitor.         |

E

**Caution: Connect these terminals for test to GND unless otherwise instructed.**

F

## ● Pin Function

### 2.5 Clock generator terminal

| Acronyms | Terminal number | I/O | Level            | Buffer type<br>PU/PD [kΩ] | Functions                                                                                                                                                 |
|----------|-----------------|-----|------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| XI       | 55              | I   | Analog           | —                         | Reference clock input<br>Connect 24.576MHz crystal oscillator.                                                                                            |
| XO       | 54              | O   | Analog           | —                         | Reference clock output<br>Connect 24.576MHz crystal oscillator.                                                                                           |
| BCLK8    | 102             | I/O | LVTTL<br>3-state | 6 mA                      | Subsequent stage line lock clock monitor input/output<br>It will become Hi-Z when BCK8OUT (SA1Fh, D5)=0.<br>Normally, set to BCK8OUT=0 and leave it open. |

### 2.6 Terminal for μPD64031A and μPD64032 digital connection

| Acronyms | Terminal number | I/O | Level            | Buffer type<br>PU/PD [kΩ] | Functions                                                                                                                                                                                                                  |
|----------|-----------------|-----|------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FCLK8    | 78              | I/O | LVTTL<br>3-state | 6 mA                      | Front stage burst lock clock input/output<br>It will become Hi-Z when FCK8S[2:0] (SA21h, D6-D4)=000b.<br>Normally, set to FCK8S[2:0]=0 and leave it open.                                                                  |
| FCKQ     | 127             | I/O | LVTTL<br>3-state | 3 mA                      | Sampling clock output for μPD64031A and μPD64032 digital connection.<br>It will become Hi-Z when FCKQS[2:0] (SA21h, D2-D0)=000b.<br>Normally, set to FCKQS[2:0]=0 and leave it open.                                       |
| FOCP     | 128             | I/O | LVTTL<br>3-state | 3 mA                      | Clamp pulse output for μPD64031A and μPD64032 digital connection/timing output (VD) for digital RGB input.<br>It will become Hi-Z when FOCPS[2:0] (SA23h, D2-D0)=000b.<br>Normally, set to FOCPS[2:0]=0 and leave it open. |

### 2.7 Terminal for RGB input

| Acronyms | Terminal number | I/O | Level            | Buffer type<br>PU/PD [kΩ] | Functions                                                                                                                                                                      |
|----------|-----------------|-----|------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DFBI     | 130             | I   | LVTTL            | —                         | Fast Blanking signal input for analog RGB input.                                                                                                                               |
| DYSI     | 131             | I   | LVTTL            | —                         | YS signal input for digital RGB input.                                                                                                                                         |
| DYMI     | 134             | I   | LVTTL            | —                         | YM signal input for digital RGB input.                                                                                                                                         |
| DCGI     | 135             | I   | LVTTL            | —                         | Digital RGB/G signal input                                                                                                                                                     |
| DCBI     | 136             | I   | LVTTL            | —                         | Digital RGB/B signal input                                                                                                                                                     |
| DCRI     | 137             | I   | LVTTL            | —                         | Digital RGB/R signal input                                                                                                                                                     |
| FCSI     | 129             | I/O | LVTTL<br>3-state | 3 mA                      | Sync separation signal input/timing output (HD) for RGB input.<br>It will become Hi-Z when FCSIS[2:0] (SA22h, D2-D0)=000b.<br>Normally, set to FCSIS[2:0]=0 and leave it open. |

A

## ● Pin Function

### 2.8 ADC1 section terminal

| Acronyms | Terminal number | I/O | Level  | Buffer type<br>PU/PD [kΩ] | Functions                                                                        |
|----------|-----------------|-----|--------|---------------------------|----------------------------------------------------------------------------------|
| AVI      | 148             | I   | Analog | —                         | ADC1 composite/Y signal input<br>Input the image signal by cutting the capacity. |
| ASYI     | 150             | I   | Analog | —                         | ADC1 composite/Y signal input<br>Input the image signal by cutting the capacity. |
| ACYI     | 152             | I   | Analog | —                         | ADC1 composite/Y signal input<br>Input the image signal by cutting the capacity. |
| ACSI     | 154             | I   | Analog | —                         | ADC1 composite/Y signal input<br>Input the image signal by cutting the capacity. |
| VCLY     | 146             | O   | Analog | —                         | ADC1 clamp electric potential<br>Connect to GND via 0.1μF and 10μF capacitors.   |
| VCOM1    | 147             | I   | Analog | —                         | ADC1 in-phase reference voltage<br>Connect to GND via a 0.1μF capacitor.         |
| VRB1     | 151             | I   | Analog | —                         | ADC1 bottom reference voltage<br>Connect to GND via a 0.1μF capacitor.           |
| VRT1     | 153             | I   | Analog | —                         | ADC1 top reference voltage<br>Connect to GND via a 0.1μF capacitor.              |

### 2.9 ADC2 section terminal

| Acronyms | Terminal number | I/O | Level  | Buffer type<br>PU/PD [kΩ] | Functions                                                                            |
|----------|-----------------|-----|--------|---------------------------|--------------------------------------------------------------------------------------|
| ASCI     | 158             | I   | Analog | —                         | ADC2 separate C signal input<br>Input the image signal by cutting the capacity.      |
| AGI      | 160             | I   | Analog | —                         | ADC2 RGB component G signal input<br>Input the image signal by cutting the capacity. |
| VRT2     | 157             | I   | Analog | —                         | ADC2 top reference voltage<br>Connect to GND via a 0.1μF capacitor.                  |
| VRB2     | 159             | I   | Analog | —                         | ADC2 bottom reference voltage<br>Connect to GND via a 0.1μF capacitor.               |
| VCOM2    | 161             | I   | Analog | —                         | ADC2 in-phase reference voltage<br>Connect to GND via a 0.1μF capacitor.             |

F

## ● Pin Function

### 2.10 ACD3 section terminal

| Acronyms | Terminal number | I/O | Level  | Buffer type<br>PU/PD [kΩ] | Functions                                                                                          |
|----------|-----------------|-----|--------|---------------------------|----------------------------------------------------------------------------------------------------|
| ACBI     | 162             | I   | Analog | —                         | ADC3 color difference component Cb signal input<br>Input the image signal by cutting the capacity. |
| ABI      | 164             | I   | Analog | —                         | ADC3 RGB component B signal input<br>Input the image signal by cutting the capacity.               |
| VRT3     | 163             | I   | Analog | —                         | ADC3 top reference voltage<br>Connect to GND via a 0.1μF capacitor.                                |
| VRB3     | 165             | I   | Analog | —                         | ADC3 bottom reference voltage<br>Connect to GND via a 0.1μF capacitor.                             |
| VCOM3    | 166             | I   | Analog | —                         | ADC3 in-phase reference voltage<br>Connect to GND via a 0.1μF capacitor.                           |

### 2.9 ACD4 section terminal

| Acronyms | Terminal number | I/O | Level  | Buffer type<br>PU/PD [kΩ] | Functions                                                                                          |
|----------|-----------------|-----|--------|---------------------------|----------------------------------------------------------------------------------------------------|
| ACRI     | 170             | I   | Analog | —                         | ADC4 color difference component Cr signal input<br>Input the image signal by cutting the capacity. |
| ARI      | 172             | I   | Analog | —                         | ADC3 RGB component R signal input<br>Input the image signal by cutting the capacity.               |
| VCOM4    | 169             | I   | Analog | —                         | ADC4 in-phase reference voltage<br>Connect to GND via a 0.1μF capacitor.                           |
| VRB4     | 173             | I   | Analog | —                         | ADC4 bottom reference voltage<br>Connect to GND via a 0.1μF capacitor.                             |
| VRT4     | 174             | I   | Analog | —                         | ADC4 top reference voltage<br>Connect to GND via a 0.1μF capacitor.                                |

### 2.12 DAC section terminal

| Acronyms | Terminal number | I/O | Level  | Buffer type<br>PU/PD [kΩ] | Functions                                                                                                    |
|----------|-----------------|-----|--------|---------------------------|--------------------------------------------------------------------------------------------------------------|
| IO-YG    | 62              | O   | Analog | —                         | Color difference component Y/RGB component G output signal.<br>Connect to AGNDA via a 200Ω load resistance.  |
| IO-CR    | 68              | O   | Analog | —                         | Color difference component Cr/RGB component R output signal.<br>Connect to AGNDA via a 200Ω load resistance. |
| IO-CB    | 65              | O   | Analog | —                         | Color difference component Cb/RGB component B output signal.<br>Connect to AGNDA via a 200Ω load resistance. |
| REF      | 59              | I   | Analog | —                         | External reference input pin. Supply 1.0V.<br>And, connect to AGNDA via a 0.1μF capacitor.                   |
| RSET     | 60              | O   | Analog | —                         | Connect to AGNDA via a 620Ω resistor for external adjustment.                                                |

A

## ● Pin Function

### 2.13 Digital image input/output terminal

| Acronyms    | Terminal number                                        | I/O | Level            | Buffer type<br>PU/PD [kΩ] | Functions                                                                                                                                                                                                   |
|-------------|--------------------------------------------------------|-----|------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FDIO0-FDIO9 | 112,113,116,<br>117,118,119,<br>121,122,123,<br>124    | I/O | LVTTL<br>3-state | 6 mA                      | Digital 8/10 bit Cb, Cr output/input at the time of μPD64031A digital connection.<br>It will become Hi-Z when FDIOS[2:0] (SA22h, D6-D4)=000b. Leave it open when not in use.                                |
| ROCK        | 101                                                    | O   | LVTTL<br>3-state | 6 mA                      | Clock for digital ITU-R BT.656/component output.                                                                                                                                                            |
| ROY0-ROY13  | 100,99,97,96,<br>95,94,91,90,<br>87,86,85,84,<br>83,82 | O   | LVTTL<br>3-state | 6 mA                      | Digital ITU-R BT.656/component output.<br>Digital RGB component (8 bit) output                                                                                                                              |
| ROFDIE      | 79                                                     | I   | LVTTL            | —                         | Image input/output terminal output enable.<br>The state of ROY[13:0], ROCK, HD, VD, VBLK, FILD and RDEO terminals is controlled.<br>L: Output terminal Hi-Z, H: Output enable<br>Normally, pull up to 3.3V. |

### 2.14 timing output terminal

| Acronyms | Terminal number | I/O | Level            | Buffer type<br>PU/PD [kΩ] | Functions                     |
|----------|-----------------|-----|------------------|---------------------------|-------------------------------|
| HD       | 105             | O   | LVTTL<br>3-state | 3 mA                      | Horizontal sync signal output |
| VD       | 106             | O   | LVTTL<br>3-state | 3 mA                      | Vertical sync signal output   |
| VBLK     | 107             | O   | LVTTL<br>3-state | 3 mA                      | V blanking output             |
| FILD     | 108             | O   | LVTTL<br>3-state | 3 mA                      | Field output                  |
| RDEO     | 110             | O   | LVTTL<br>3-state | 3 mA                      | Effective pixel range output  |

## ● Pin Function

### 2.15 Memory interface terminal

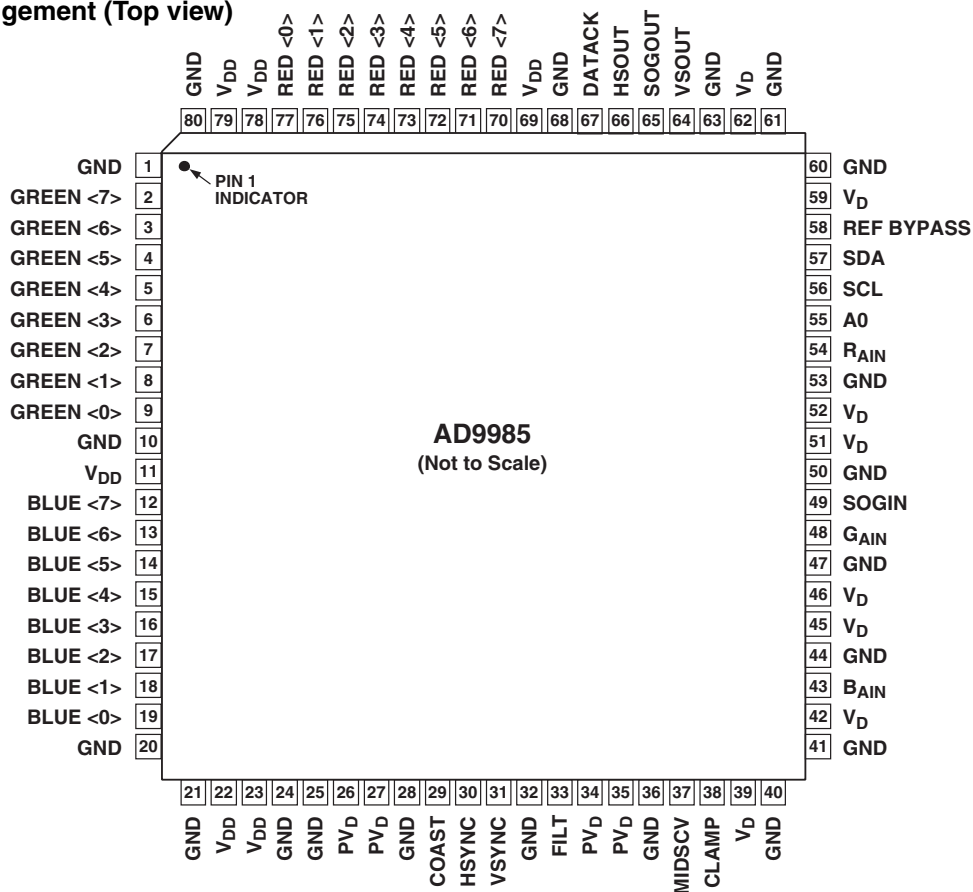
| Acronyms           | Terminal number                                             | I/O | Level            | Buffer type<br>PU/PD [kΩ] | Functions                                                                                                                            |
|--------------------|-------------------------------------------------------------|-----|------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| SDRABP             | 4                                                           | O   | LVTTL<br>3-state | 3 mA                      | All bank pre-charge output for external memory<br>(Active-High)                                                                      |
| SDRCLK             | 25                                                          | O   | LVTTL<br>3-state | 9 mA                      | Clock output for external memory                                                                                                     |
| SDRCKE             | 21                                                          | O   | LVTTL<br>3-state | 3 mA                      | Clock enable output for external memory<br>(Active-High)                                                                             |
| SDRCS              | 20                                                          | O   | LVTTL<br>3-state | 3 mA                      | Chip select output for external memory<br>(Active-Low)                                                                               |
| SDRCAS             | 28                                                          | O   | LVTTL<br>3-state | 3 mA                      | Column address strobe output for external memory<br>(Active-Low)                                                                     |
| SDRRAS             | 22                                                          | O   | LVTTL<br>3-state | 3 mA                      | Low address strobe output for external memory<br>(Active-Low)                                                                        |
| SDRWE              | 29                                                          | O   | LVTTL<br>3-state | 3 mA                      | Write enable output for external memory<br>(Active-Low)                                                                              |
| SDRA0<br>-SDRA11   | 19,18,15,14,<br>13,12,10,9,8,<br>7,6,5                      | O   | LVTTL<br>3-state | 3 mA                      | Address output for external memory<br>Insert a damping resistor of approximately 100Ω,<br>and connect to the SDRAM address terminal. |
| SDRDQ0<br>-SDRDQ15 | 51,49,46,42,<br>40,36,34,30,<br>31,35,37,41,<br>43,47,50,52 | I/O | LVTTL<br>3-state | 6 mA                      | Data input/output for external memory.                                                                                               |

A

# AD9985KSTZ-110 (MAIN ASSY: IC5301)

• ADC

## • Pin Arrangement (Top view)

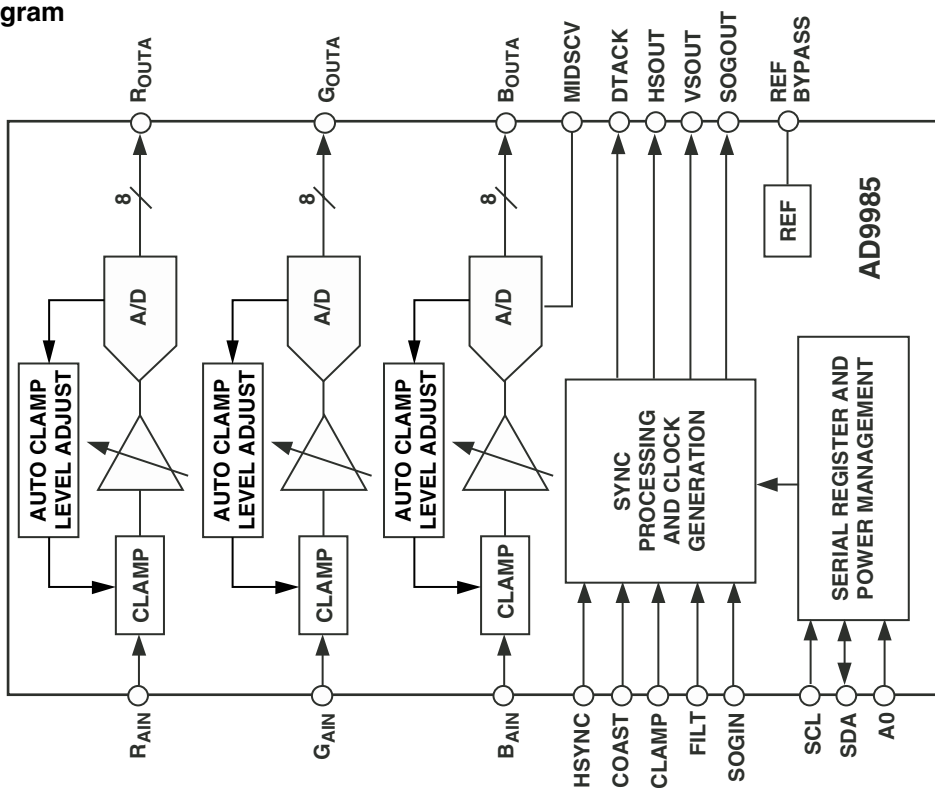


B

C

D

## • Block Diagram



E

F

## ● Pin Function

| Pin Type     | Mnemonic         | Function                                                   | Value          | Pin No.                                                                       |
|--------------|------------------|------------------------------------------------------------|----------------|-------------------------------------------------------------------------------|
| Inputs       | R <sub>AIN</sub> | Analog Input for Converter R                               | 0.0 V to 1.0V  | 54                                                                            |
|              | G <sub>AIN</sub> | Analog Input for Converter G                               | 0.0 V to 1.0V  | 48                                                                            |
|              | B <sub>AIN</sub> | Analog Input for Converter B                               | 0.0 V to 1.0V  | 43                                                                            |
|              | HSYNC            | Horizontal SYNC Input                                      | 3.3 V CMOS     | 30                                                                            |
|              | VSYNC            | Vertical SYNC Input                                        | 3.3 V CMOS     | 31                                                                            |
|              | SOGIN            | Input for Sync-on-Green                                    | 0.0 V to 1.0 V | 49                                                                            |
|              | CLAMP            | Clamp Input (External CLAMP Signal)                        | 3.3 V CMOS     | 38                                                                            |
|              | COAST            | PLL COAST Signal Input                                     | 3.3 V CMOS     | 29                                                                            |
| Outputs      | Red [7:0]        | Outputs of Converter Red, Bit 7 is the MSB                 | 3.3 V CMOS     | 70–77                                                                         |
|              | Green [7:0]      | Outputs of Converter Green, Bit 7 is the BSB               | 3.3 V CMOS     | 2–9                                                                           |
|              | Blue [7:0]       | Outputs of Converter Blue, Bit 7 is the BSB                | 3.3 V CMOS     | 12–19                                                                         |
|              | DATAACK          | Data Output Clock                                          | 3.3 V CMOS     | 67                                                                            |
|              | HSOUT            | HSYNC Output (Phase-Aligned with DATAACK)                  | 3.3 V CMOS     | 66                                                                            |
|              | VSOUT            | VSYNC Output (Phase-Aligned with DATAACK)                  | 3.3 V CMOS     | 64                                                                            |
|              | SOGOUT           | Sync-on-Green Slicer Output                                | 3.3 V CMOS     | 65                                                                            |
| References   | REF BYPASS       | Internal Reference Bypass                                  | 1.25 V         | 58                                                                            |
|              | MIDSCV           | Internal Midscale Voltage Bypass                           |                | 37                                                                            |
|              | FILT             | Connection for External Filter Components for Internal PLL |                | 33                                                                            |
| Power Supply | V <sub>D</sub>   | Analog Power Supply                                        | 3.3 V          | 39, 42, 45, 46, 51, 52, 59, 62                                                |
|              | V <sub>DD</sub>  | Output Power Supply                                        | 3.3 V          | 11, 22, 23, 69, 78, 79                                                        |
|              | PV <sub>D</sub>  | PLL Power Supply                                           | 3.3 V          | 26, 27, 34, 35                                                                |
|              | GND              | Ground                                                     | 0 V            | 1, 10, 20, 21, 24, 25, 28, 32, 36, 40, 41, 44, 47, 50, 53, 60, 61, 63, 68, 80 |
| Control      | SDA              | Serial Port Data I/O                                       | 3.3 V CMOS     | 57                                                                            |
|              | SCL              | Serial Port Data Clock (100 kHz Maximum)                   | 3.3 V CMOS     | 56                                                                            |
|              | A0               | Serial Port Address Input 1                                | 3.3 V CMOS     | 55                                                                            |

A

## ● Pin Function

| Pin Name                                                                                                                                                                                                                                                                                                                                                               | Function                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>OUTPUTS</b>                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| HSOUT                                                                                                                                                                                                                                                                                                                                                                  | Horizontal Sync Output<br>A reconstructed and phase-aligned version of the Hsync input. Both the polarity and duration of this output can be programmed via serial bus registers. By maintaining alignment with DATAACK and Data, data timing with respect to horizontal sync can always be determined.                                                                                                                                                                                                                                                          |
| VSOUT                                                                                                                                                                                                                                                                                                                                                                  | Vertical Sync Output<br>A reconstructed and phase-aligned version of the video Vsync. The polarity of this output can be controlled via a serial bus bit. The placement and duration in all modes is set by the graphics transmitter.                                                                                                                                                                                                                                                                                                                            |
| SOGOUT                                                                                                                                                                                                                                                                                                                                                                 | Sync-On-Green Slicer Output<br>This pin outputs either the signal from the Sync-on-Green slicer comparator or an unprocessed but delayed version of the Hsync input. See the Sync Processing Block Diagram to view how this pin is connected. (Note: Besides slicing off SOG, the output from this pin gets no other additional processing on the AD9985. Vsync separation is performed via the sync separator.)                                                                                                                                                 |
| <b>SERIAL PORT (2-Wire)</b>                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SDA                                                                                                                                                                                                                                                                                                                                                                    | Serial Port Data I/O                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| SCL                                                                                                                                                                                                                                                                                                                                                                    | Serial Port Data Clock                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| A0                                                                                                                                                                                                                                                                                                                                                                     | Serial Port Address Input 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| For a full description of the 2-wire serial register and how it works, refer to the 2-wire serial control port section.                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>DATA OUTPUTS</b>                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| RED                                                                                                                                                                                                                                                                                                                                                                    | Data Output, Red Channel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| GREEN                                                                                                                                                                                                                                                                                                                                                                  | Data Output, Green Channel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| BLUE                                                                                                                                                                                                                                                                                                                                                                   | Data Output, Blue Channel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| The main data outputs. Bit 7 is the MSB. The delay from pixel sampling time to output is fixed. When the sampling time is changed by adjusting the PHASE register, the output timing is shifted as well. The DATAACK and HSOUT outputs are also moved, so the timing relationship among the signals is maintained. For exact timing information.                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>DATA CLOCK OUTPUT</b>                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| DATAACK                                                                                                                                                                                                                                                                                                                                                                | Data Output Clock<br>The main clock output signal used to strobe the output data and HSOUT into external logic. It is produced by the internal clock generator and is synchronous with the internal pixel sampling clock. When the sampling time is changed by adjusting the PHASE register, the output timing is shifted as well. The Data, DATAACK, and HSOUT outputs are all moved, so the timing relationship among the signals is maintained.                                                                                                               |
| <b>INPUTS</b>                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| R <sub>AIN</sub>                                                                                                                                                                                                                                                                                                                                                       | Analog Input for Red Channel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| G <sub>AIN</sub>                                                                                                                                                                                                                                                                                                                                                       | Analog Input for Green Channel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| B <sub>AIN</sub>                                                                                                                                                                                                                                                                                                                                                       | Analog Input for Blue Channel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| High impedance inputs that accept the Red, Green, and Blue channel graphics signals, respectively. (The three channels are identical, and can be used for any colors, but colors are assigned for convenient reference.) They accommodate input signals ranging from 0.5 V to 1.0 V full scale. Signals should be ac-coupled to these pins to support clamp operation. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| HSYNC                                                                                                                                                                                                                                                                                                                                                                  | Horizontal Sync Input<br>This input receives a logic signal that establishes the horizontal timing reference and provides the frequency reference for pixel clock generation. The logic sense of this pin is controlled by serial Register 0EH Bit 6 (Hsync Polarity). Only the leading edge of Hsync is active; the trailing edge is ignored. When Hsync Polarity = 0, the falling edge of Hsync is used. When Hsync Polarity = 1, the rising edge is active. The input includes a Schmitt trigger for noise immunity, with a nominal input threshold of 1.5 V. |
| VSYNC                                                                                                                                                                                                                                                                                                                                                                  | Vertical Sync Input<br>The input for vertical sync.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

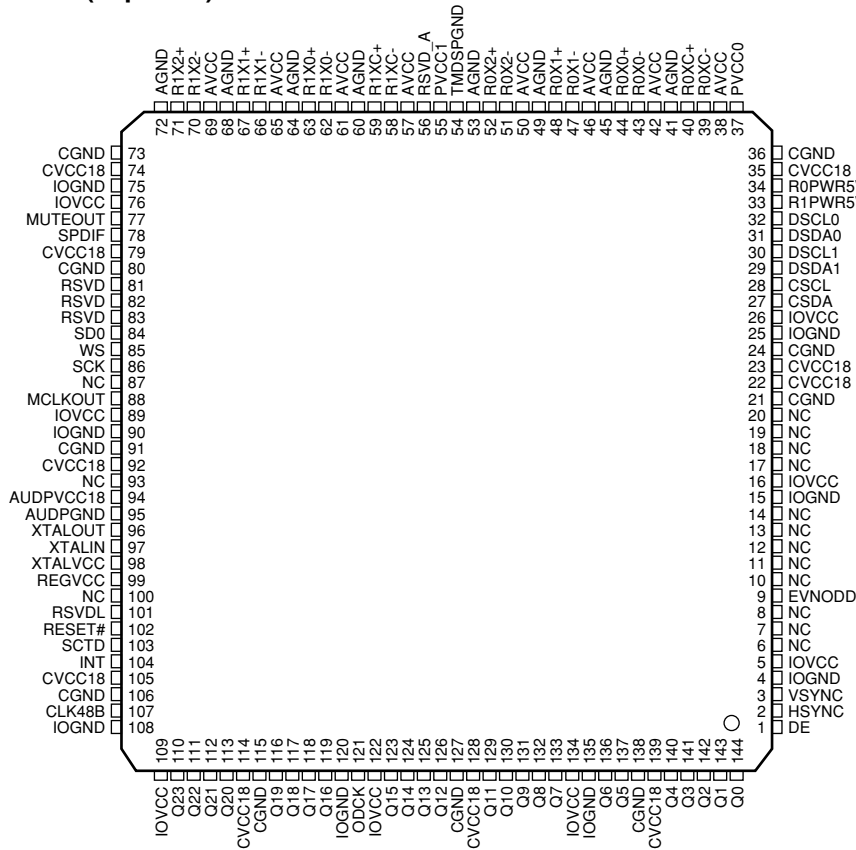
F

## ● Pin Function

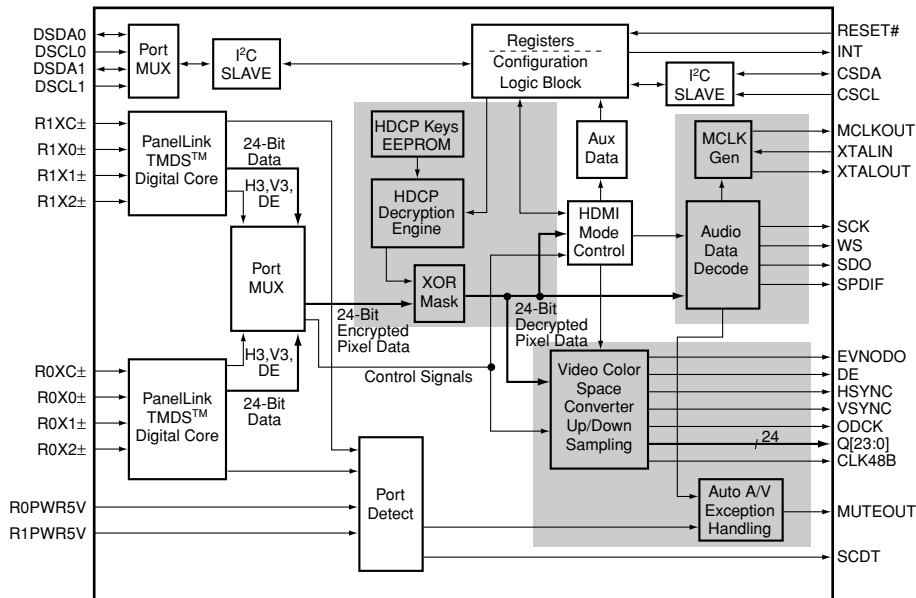
| Pin Name            | Function                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SOGIN               | <p>Sync-on-Green Input</p> <p>This input is provided to assist with processing signals with embedded sync, typically on the Green channel. The pin is connected to a high speed comparator with an internally generated threshold. The threshold level can be programmed in 10 mV steps to any voltage between 10 mV and 330 mV above the negative peak of the input signal. The default voltage threshold is 150 mV. When connected to an ac-coupled graphics signal with embedded sync, it will produce a noninverting digital output on SOGOUT. (This is usually a composite sync signal, containing both vertical and horizontal sync information that must be separated before passing the horizontal sync signal to Hsync.) When not used, this input should be left unconnected. For more details on this function and how it should be configured, refer to the Sync-on-Green section.</p> |
| CLAMP               | <p>External Clamp Input</p> <p>This logic input may be used to define the time during which the input signal is clamped to ground. It should be exercised when the reference dc level is known to be present on the analog input channels, typically during the back porch of the graphics signal. The CLAMP pin is enabled by setting control bit Clamp Function to 1 (Register 0FH, Bit 7, default is 0). When disabled, this pin is ignored and the clamp timing is determined internally by counting a delay and duration from the trailing edge of the Hsync input. The logic sense of this pin is controlled by Clamp Polarity Register 0FH, Bit 6. When not used, this pin must be grounded and Clamp Function programmed to 0.</p>                                                                                                                                                         |
| COAST               | <p>Clock Generator Coast Input (Optional)</p> <p>This input may be used to cause the pixel clock generator to stop synchronizing with Hsync and continue producing a clock at its current frequency and phase. This is useful when processing signals from sources that fail to produce horizontal sync pulses during the vertical interval. The COAST signal is generally not required for PC-generated signals. The logic sense of this pin is controlled by Coast Polarity (Register 0FH, Bit 3). When not used, this pin may be grounded and Coast Polarity programmed to 1, or tied HIGH (to <math>V_D</math> through a 10 k resistor) and Coast Polarity programmed to 0. Coast Polarity defaults to 1 at power-up.</p>                                                                                                                                                                      |
| REF BYPASS          | <p>Internal Reference BYPASS</p> <p>Bypass for the internal 1.25 V band gap reference. It should be connected to ground through a 0.1 <math>\mu</math>F capacitor. The absolute accuracy of this reference is <math>\pm 4\%</math>, and the temperature coefficient is <math>\pm 50</math> ppm, which is adequate for most AD9985 applications. If higher accuracy is required, an external reference may be employed instead.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| MIDSCV              | <p>Midscale Voltage Reference BYPASS</p> <p>Bypass for the internal midscale voltage reference. It should be connected to ground through a 0.1 <math>\mu</math>F capacitor. The exact voltage varies with the gain setting of the Blue channel.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| FILT                | <p>External Filter Connection</p> <p>For proper operation, the pixel clock generator PLL requires an external filter. Connect the filter shown in Figure to this pin. For optimal performance, minimize noise and parasitics on this node.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>POWER SUPPLY</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| $V_D$               | <p>Main Power Supply</p> <p>These pins supply power to the main elements of the circuit. They should be filtered and as quiet as possible.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| $V_{DD}$            | <p>Digital Output Power Supply</p> <p>A large number of output pins (up to 25) switching at high speed (up to 110 MHz) generates a lot of power supply transients (noise). These supply pins are identified separately from the <math>V_D</math> pins so special care can be taken to minimize output noise transferred into the sensitive analog circuitry. If the AD9985 is interfacing with lower voltage logic, <math>V_{DD}</math> may be connected to a lower supply voltage (as low as 2.5 V) for compatibility.</p>                                                                                                                                                                                                                                                                                                                                                                        |
| $PV_D$              | <p>Clock Generator Power Supply</p> <p>The most sensitive portion of the AD9985 is the clock generation circuitry. These pins provide power to the clock PLL and help the user design for optimal performance. The designer should provide quiet, noise-free power to these pins.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| GND                 | <p>Ground</p> <p>The ground return for all circuitry on-chip. It is recommended that the AD9985 be assembled on a single solid ground plane, with careful attention given to ground current paths.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

# **SiI9023CTU (MAIN ASSY: IC5401)** • HDMI Rx

## ● Pin Arrangement (Top view)



## ● Block Diagram



# **● Pin Function**

| No. | Pin Name | I/O | Pin Function              |
|-----|----------|-----|---------------------------|
| 1   | DE       | O   | Data enable               |
| 2   | HSYNC    | O   | H. sync. output control   |
| 3   | VSNC     | O   | V. sync. output control   |
| 4   | IOGND    | –   | I/O GND                   |
| 5   | IOVCC    | –   | I/O VCC                   |
| 6   | NC       | –   | Non connection            |
| 7   | NC       | –   | Non connection            |
| 8   | NC       | –   | Non connection            |
| 9   | EVNODD   | O   | EVEN/ODD field indicator  |
| 10  | NC       | –   | Non connection            |
| 11  | NC       | –   | Non connection            |
| 12  | NC       | –   | Non connection            |
| 13  | NC       | –   | Non connection            |
| 14  | NC       | –   | Non connection            |
| 15  | IOGND    | –   | I/O GND                   |
| 16  | IOVCC    | –   | I/O VCC                   |
| 17  | NC       | –   | Non connection            |
| 18  | NC       | –   | Non connection            |
| 19  | NC       | –   | Non connection            |
| 20  | NC       | –   | Non connection            |
| 21  | CGND     | –   | Digital logic GND         |
| 22  | CVCC18   | –   | Digital logic VCC (1.8 V) |
| 23  | CVCC18   | –   | Digital logic VCC (1.8 V) |
| 24  | CGND     | –   | Digital logic GND         |
| 25  | IOGND    | –   | I/O GND                   |
| 26  | IOVCC    | –   | I/O VCC                   |
| 27  | CSDA     | I/O | Configuration I2C data    |
| 28  | CSCL     | I   | Configuration I2C clock   |
| 29  | DSDA1    | I/O | DDC I2C data for port 1   |
| 30  | DSCL1    | I   | DDC I2C clock for port 1  |
| 31  | DSDA0    | I/O | DDC I2C data for port 0   |
| 32  | DSCL0    | I   | DDC I2C clock for port 0  |
| 33  | R1PWR5V  | I   | Port 1 transfer detection |
| 34  | R0PWR5V  | I   | Port 0 transfer detection |
| 35  | CVCC18   | –   | Digital logic VCC (1.8 V) |
| 36  | CGND     | –   | Digital logic GND         |
| 37  | PVCC0    | –   | TMDS port 0 PLL VCC       |
| 38  | AVCC     | –   | TMDS analog VCC           |
| 39  | R0XC-    | I   | TMDS input clock          |
| 40  | R0XC+    | I   | TMDS input clock          |
| 41  | AGND     | –   | TMDS analog GND           |
| 42  | AVCC     | –   | TMDS analog VCC           |
| 43  | R0X0-    | I   | TMDS input data           |
| 44  | R0X0+    | I   | TMDS input data           |
| 45  | AGND     | –   | TMDS analog GND           |
| 46  | AVCC     | –   | TMDS analog VCC           |
| 47  | R0X1-    | I   | TMDS input data           |
| 48  | R0X1+    | I   | TMDS input data           |
| 49  | AGND     | –   | TMDS analog GND           |
| 50  | AVCC     | –   | TMDS analog VCC           |

A

## ● Pin Function

| No. | Pin Name  | I/O | Pin Function              |
|-----|-----------|-----|---------------------------|
| 51  | R0X2-     | I   | TMDS input data           |
| 52  | R0X2+     | I   | TMDS input data           |
| 53  | AGND      | –   | TMDS analog GND           |
| 54  | TMDSPGND  | –   | TMDS PLL GND              |
| 55  | PVCC1     | –   | TMDS port 1 PLL VCC       |
| 56  | RSVD_A    | –   | Reserved                  |
| 57  | AVCC      | –   | TMDS analog VCC           |
| 58  | R1XC-     | I   | TMDS input clock          |
| 59  | R1XC+     | I   | TMDS input clock          |
| 60  | AGND      | –   | TMDS analog GND           |
| 61  | AVCC      | –   | TMDS analog VCC           |
| 62  | R1X0-     | I   | TMDS input data           |
| 63  | R1X0+     | I   | TMDS input data           |
| 64  | AGND      | –   | TMDS analog GND           |
| 65  | AVCC      | –   | TMDS analog VCC           |
| 66  | R1X1-     | I   | TMDS input data           |
| 67  | R1X1+     | I   | TMDS input data           |
| 68  | AGND      | –   | TMDS analog GND           |
| 69  | AVCC      | –   | TMDS analog VCC           |
| 70  | R1X2-     | I   | TMDS input data           |
| 71  | R1X2+     | I   | TMDS input data           |
| 72  | AGND      | –   | TMDS analog GND           |
| 73  | CGND      | –   | Digital logic GND         |
| 74  | CVCC18    | –   | Digital logic VCC (1.8 V) |
| 75  | IOGND     | –   | I/O GND                   |
| 76  | IOVCC     | –   | I/O VCC                   |
| 77  | MUTEOUT   | O   | Audio output mute         |
| 78  | SPDIF     | O   | S/PDIF audio output       |
| 79  | CVCC18    | –   | Digital logic VCC (1.8 V) |
| 80  | CGND      | –   | Digital logic GND         |
| 81  | RSVD      | O   | –                         |
| 82  | RSVD      | O   | –                         |
| 83  | RSVD      | O   | –                         |
| 84  | SD0       | O   | I2C serial data output    |
| 85  | WS        | O   | I2C word select output    |
| 86  | SCK       | O   | I2C serial clock output   |
| 87  | NC        | –   | Non connection            |
| 88  | MCLKOUT   | O   | Audio master clock output |
| 89  | IOVCC     | –   | I/O VCC                   |
| 90  | IOGND     | –   | I/O GND                   |
| 91  | CGND      | –   | Digital logic GND         |
| 92  | CVCC18    | –   | Digital logic VCC (1.8 V) |
| 93  | NC        | –   | Non connection            |
| 94  | AUDPVCC18 | –   | ACR PLL VCC               |
| 95  | AUDPGND   | –   | ACR PLL GND               |
| 96  | XTALOUT   | O   | Crystal clock output      |
| 97  | XTALIN    | I   | Crystal clock input       |
| 98  | XTALVCC   | –   | ACR PLL crystal input VCC |
| 99  | REGVCC    | –   | ACR PLL regulator VCC     |
| 100 | NC        | –   | Non connection            |

# ● Pin Function

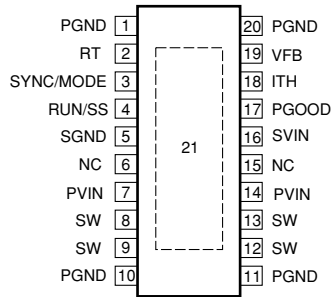
| No. | Pin Name | I/O | Pin Function                                  |
|-----|----------|-----|-----------------------------------------------|
| 101 | RSVDL    | I   | Reserved, Low fixing                          |
| 102 | RESET#   | I   | Reset, active Low                             |
| 103 | SCTD     | O   | Display active video with the HDMI input port |
| 104 | INT      | O   | Interruption output                           |
| 105 | CVCC18   | –   | Digital logic VCC (1.8 V)                     |
| 106 | CGND     | –   | Digital logic GND                             |
| 107 | CLK48B   | I/O | Data bus latch enable                         |
| 108 | IOGND    | –   | I/O GND                                       |
| 109 | IOVCC    | –   | I/O VCC                                       |
| 110 | Q23      | O   | 24-bit output, pixel data bus                 |
| 111 | Q22      | O   | 24-bit output, pixel data bus                 |
| 112 | Q21      | O   | 24-bit output, pixel data bus                 |
| 113 | Q20      | O   | 24-bit output, pixel data bus                 |
| 114 | CVCC18   | –   | Digital logic VCC (1.8 V)                     |
| 115 | CGND     | –   | Digital logic GND                             |
| 116 | Q19      | O   | 24-bit output, pixel data bus                 |
| 117 | Q18      | O   | 24-bit output, pixel data bus                 |
| 118 | Q17      | O   | 24-bit output, pixel data bus                 |
| 119 | Q16      | O   | 24-bit output, pixel data bus                 |
| 120 | IOGND    | –   | I/O GND                                       |
| 121 | ODCK     | O   | Output data clock                             |
| 122 | IOVCC    | –   | I/O VCC                                       |
| 123 | Q15      | O   | 24-bit output, pixel data bus                 |
| 124 | Q14      | O   | 24-bit output, pixel data bus                 |
| 125 | Q13      | O   | 24-bit output, pixel data bus                 |
| 126 | Q12      | O   | 24-bit output, pixel data bus                 |
| 127 | CGND     | –   | Digital logic GND                             |
| 128 | CVCC18   | –   | Digital logic VCC (1.8 V)                     |
| 129 | Q11      | O   | 24-bit output, pixel data bus                 |
| 130 | Q10      | O   | 24-bit output, pixel data bus                 |
| 131 | Q9       | O   | 24-bit output, pixel data bus                 |
| 132 | Q8       | O   | 24-bit output, pixel data bus                 |
| 133 | Q7       | O   | 24-bit output, pixel data bus                 |
| 134 | IOVCC    | –   | I/O VCC                                       |
| 135 | IOGND    | –   | I/O GND                                       |
| 136 | Q6       | O   | 24-bit output, pixel data bus                 |
| 137 | Q5       | O   | 24-bit output, pixel data bus                 |
| 138 | CGND     | –   | Digital logic GND                             |
| 139 | CVCC18   | –   | Digital logic VCC (1.8 V)                     |
| 140 | Q4       | O   | 24-bit output, pixel data bus                 |
| 141 | Q3       | O   | 24-bit output, pixel data bus                 |
| 142 | Q2       | O   | 24-bit output, pixel data bus                 |
| 143 | Q1       | O   | 24-bit output, pixel data bus                 |
| 144 | Q0       | O   | 24-bit output, pixel data bus                 |

A

# **LTC3414EFE (MAIN ASSY: IC4102)**

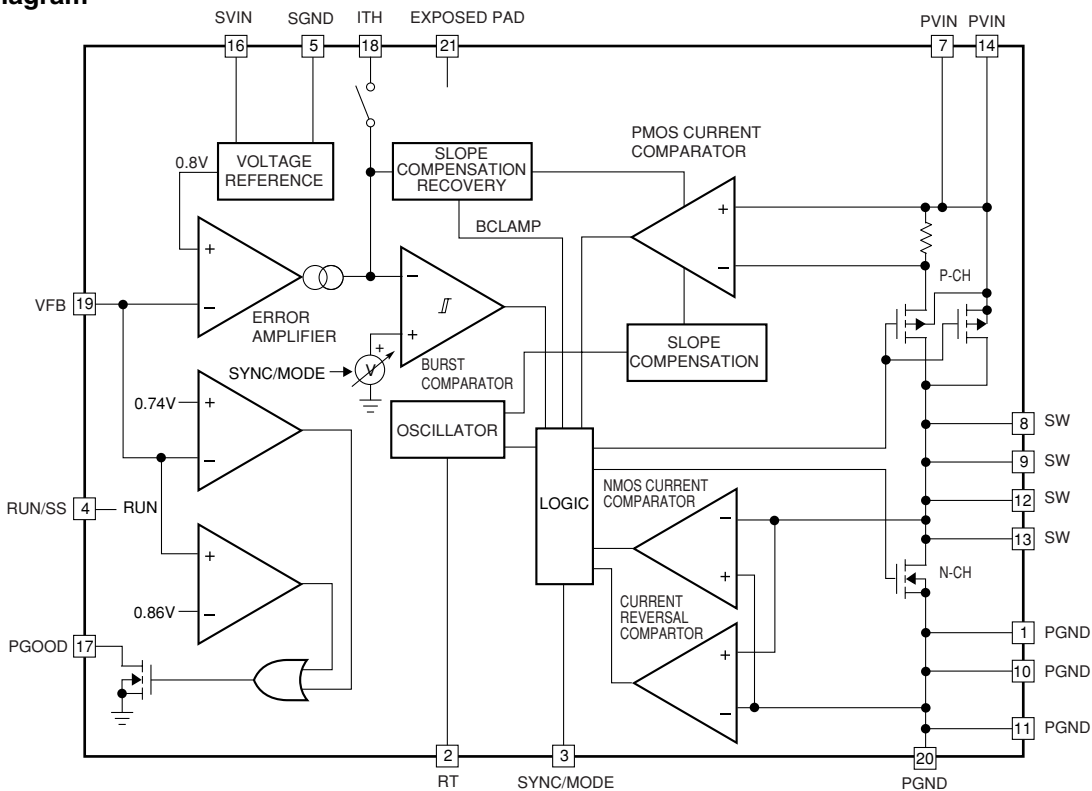
• Regulator IC

## • Pin Arrangement (Top view)



B

## • Block Diagram



C

D

## • Pin Function

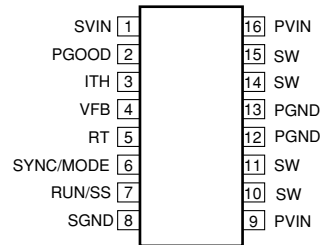
| No. | Pin Name  | I/O | Pin Function                                          | No. | Pin Name    | I/O | Pin Function                                         |
|-----|-----------|-----|-------------------------------------------------------|-----|-------------|-----|------------------------------------------------------|
| 1   | PGND      | –   | Power Ground.                                         | 12  | SW          | –   | Switch Node Connection to Inductor.                  |
| 2   | RT        | I   | Oscillator Resistor Input.                            | 13  | SW          | –   | Switch Node Connection to Inductor.                  |
| 3   | SYNC/MODE | I   | Mode Select and External Clock Synchronization Input. | 14  | PVIN        | –   | Power Input Supply.                                  |
| 4   | RUN/SS    | I   | Run Control and Soft-Start Input.                     | 15  | NC          | –   | Open. No internal connection.                        |
| 5   | SGND      | –   | Signal Ground.                                        | 16  | SVIN        | I   | Signal Input Supply.                                 |
| 6   | NC        | –   | Open. No internal connection.                         | 17  | PGOOD       | O   | Power Good Output.                                   |
| 7   | PVIN      | –   | Power Input Supply                                    | 18  | ITH         | –   | Error Amplifier Compensation Point.                  |
| 8   | SW        | –   | Switch Node Connection to Inductor.                   | 19  | VFB         | I   | Feedback Pin.                                        |
| 9   | SW        | –   | Switch Node Connection to Inductor.                   | 20  | PGND        | –   | Power Ground.                                        |
| 10  | PGND      | –   | Power Ground.                                         | 21  | Exposed Pad | –   | Should be connected to SGND and soldered to the PCB. |
| 11  | PGND      | –   | Power Ground.                                         |     |             |     |                                                      |

F

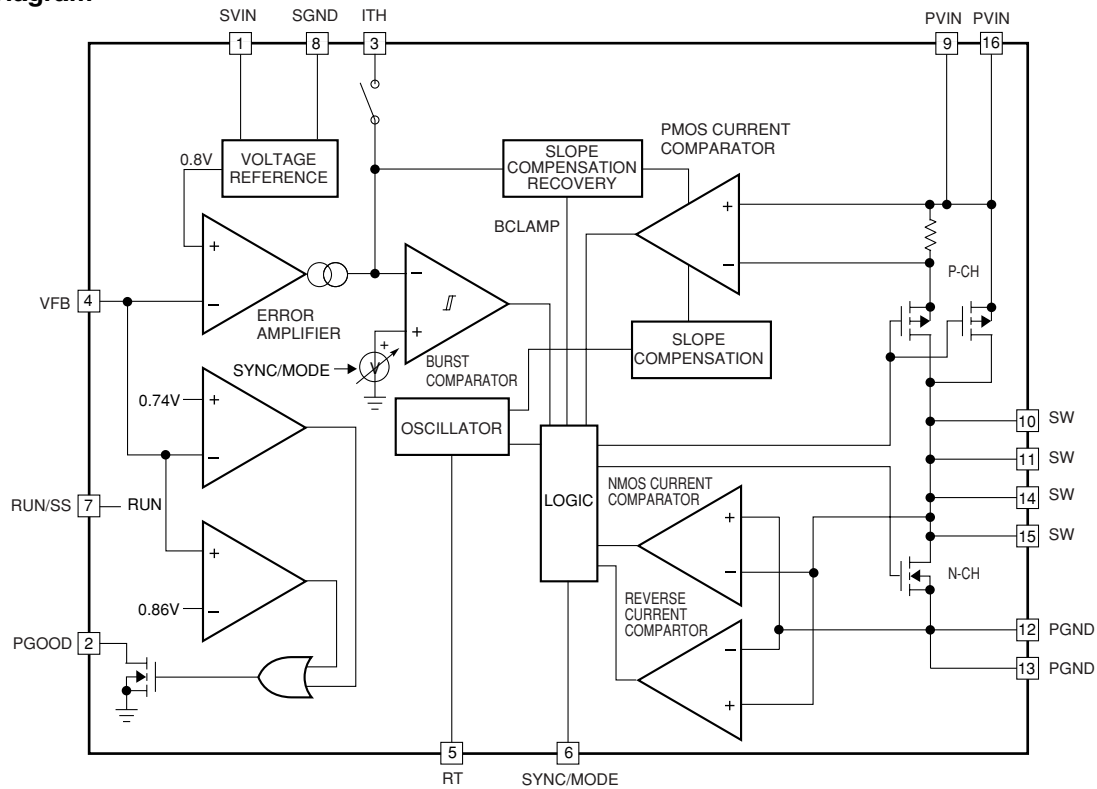
## ■ LTC3412EFE (MAIN ASSY: IC4103)

• Regulator IC

### ● Pin Arrangement (Top view)



### ● Block Diagram



### ● Pin Function

| No. | Pin Name  | I/O | Pin Function                                          | No. | Pin Name | I/O | Pin Function                            |
|-----|-----------|-----|-------------------------------------------------------|-----|----------|-----|-----------------------------------------|
| 1   | SVIN      | I   | Signal Input Supply.                                  | 9   | PVIN     | I   | Power Input Supply                      |
| 2   | PGOOD     | O   | Power Good Output.                                    | 10  | SW       | –   | Switch Node Connection to the Inductor. |
| 3   | ITH       | –   | Error Amplifier Compensation Point.                   | 11  | SW       | –   | Switch Node Connection to the Inductor. |
| 4   | VFB       | I   | Feedback Pin.                                         | 12  | PGND     | –   | Power Ground                            |
| 5   | RT        | I   | Oscillator Resistor Input.                            | 13  | PGND     | –   | Power Ground                            |
| 6   | SYNC/MODE | I   | Mode Select and External Clock Synchronization Input. | 14  | SW:      | –   | Switch Node Connection to the Inductor. |
| 7   | RUN/SS    | I   | Run Control and Soft-Start Input.                     | 15  | SW       | –   | Switch Node Connection to the Inductor. |
| 8   | SGND      | –   | Signal Ground.                                        | 16  | PVIN     | I   | Power Input Supply                      |

A

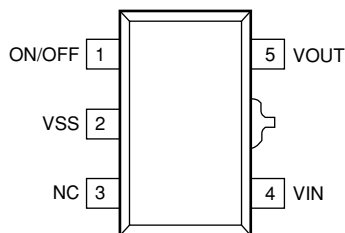
## ■ S1170B25UC-OTA (MAIN ASSY : IC4105)

## ■ S1170B15UC-OTA (MAIN ASSY : IC4106)

• Regulator IC

B

### ● Pin Arrangement (Top view)



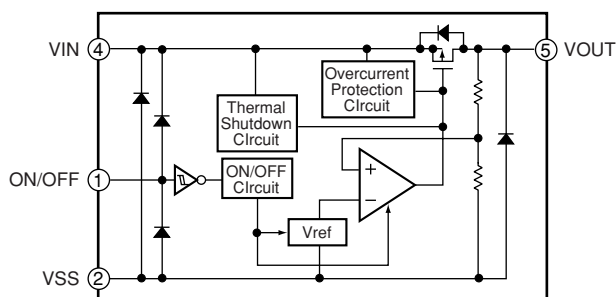
B

### ● Pin Function

| No. | Pin Name | I/O | Pin Function   |
|-----|----------|-----|----------------|
| 1   | ON/OFF   | I   | Power OFF pin  |
| 2   | VSS      | –   | Ground         |
| 3   | NC       | –   | Non connection |
| 4   | VIN      | I   | Voltage input  |
| 5   | VOUT     | O   | Voltage output |

C

### ● Block Diagram



C

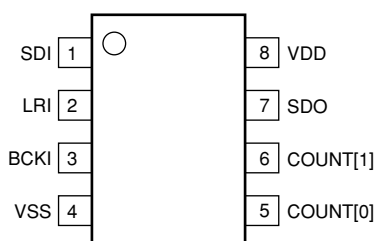
D

## ■ NJU26901E2 (MAIN ASSY : IC4704)

• Audio Delay IC

D

### ● Pin Arrangement (Top view)



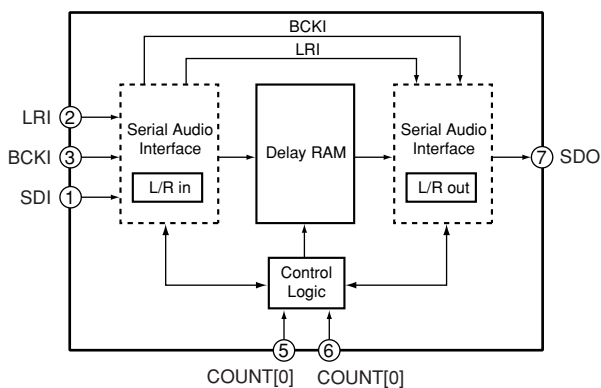
D

### ● Pin Function

| No. | Pin Name | I/O | Pin Function             |
|-----|----------|-----|--------------------------|
| 1   | SDI      | I   | Serial audio data input  |
| 2   | LRI      | I   | LR clock input           |
| 3   | BCKI     | I   | Serial clock input       |
| 4   | VSS      | –   | Ground                   |
| 5   | COUNT[0] | I   | Delay time setting 0     |
| 6   | COUNT[1] | I   | Delay time setting 1     |
| 7   | SDO      | O   | Serial audio data output |
| 8   | VDD      | –   | Power supply (+2.5V)     |

E

### ● Block Diagram



F